NOTE I.

ON A COLLECTION OF BIRDS

made by Dr. C. KLAESI

in the Highlands of Padang (W. Sumatra) during the winter 1884—85.

BY

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Repeated and successful attempts have been made within the last 10 years to increase our knowledge of the Avifauna of Sumatra, and though much is still left undone, the time cannot be very far, that we shall have a tolerably good idea of it and its relation to that of the Continent and the great neighbouring Islands of Java and Borneo.

The first intelligence of Sumatran Birds is given by Sir Stamford Raffles in the *Transactions of the Linnean Society*, Vol. XIII, p. 277—331, with an appendix (pp. 339, 340) in 1822. This very important account mentions 168 species, which were collected at Bencoolen (S. W. Sumatra), the residence of Raffles', and its vicinity. More than 50 of these species were considered to be new. — About 10 years later (1830) his widow published a memoir of Raffles, with an appendix from the hand of Vigors', in which 30 more species, also collected by Raffles, are enumerated, so that the number of species, the first knowledge of which is due to Raffles, is brought to the considerable number of 198.

In June 1833 the well-known Dutch traveller S. Müller, accompanied by van Oort, Korthals and Burger, all members of the »Natuurkundige Commissie", were directed to Padang, on the West Coast of Sumatra, a country where formerly but some few objects were collected and forwarded to the Leyden Museum by the Major Henrici[1]). The last months of 1833 and the years 1834 and 1835 were bestowed on the exploration of the Lowlands and Highlands of Padang and enormous collections of every kind were sent to Europe. In September 1834 van Oort died at Padang, and towards the end of 1835 Müller and Korthals returned to Batavia.

Two years later another attempt was made by Dr. Horner, also member of the »Commissie", who, after having made part, together with Müller and Korthals, of the expedition to Banjermassing (Borneo), arrived at Padang on the 24th of June 1837. He was accompanied by the Dutch preparator Overdijk. Notwithstanding most of their time was spent with geological observations, Dr. Horner furnished the Leyden Museum with a considerable number of Birds, collected in the vicinity of Padang and on the Islands along the West Coast, especially at Poelo Tello. He died at Padang after about $1^1/_2$ year's stay in that country, the 7th December 1838.

A report of the Birds collected during the explorations by the mentioned Dutch Naturalists has never been published, but many of them have been described and figured by Temminck in his *Planches Coloriées*, others in the *Verhandelingen over de Natuurlijke Geschiedenis der Nederlandsche Overzeesche Bezittingen* by Müller and Schlegel, Zoologie, and by Müller alone, Land- en Volkenkunde. The large collections, stored up in the Leyden Museum, have also furnished part of the materials for Schlegel's *Catalogue du Musée des Pays-Bas* and for his *Vogels van Nederlandsch*

1) One of these species, *Megalaema Henricii*, not found by any subsequent traveller in Sumatra and thus only known by the typical specimen, figured by Temminck in the *Planches Coloriées*, is rediscovered by Dr. Klaesi.

Indie, for Bonaparte's *Conspectus Avium*, and many other publications.

After these investigations a long space of time elapsed without any remarkable ornithological news from this vast Island, until Mr. Buxton made his collection in the Lampongs, S. E. Sumatra. This gentleman, during the summer months of 1876, collected a great number of Birds, representing 152 species, amongst which two were new to science. This very important collection was described by the late Lord Tweeddale, Ibis 1877, p. 283—323.

In 1877 (April to December), Mr. Snelleman, the Naturalist of the Dutch Expedition to Mid-Sumatra, made a collection of Birds in the Highlands of Padang in different stations of the Expedition. The collection, at present incorporated into the Leyden Museum, contained about 280 specimens, referable to 97 species, two of which (*Rhipidura atrata* and *Peloperdix rubrirostris*) were then new to science, but shortly afterwards were also found by Beccari and described by Count Salvadori, before the publications of the Sumatra Expedition had left the press. The ornithological collections are afterwards described by Mr. Snelleman in the work »*Midden-Sumatra*, *Reizen en onderzoekingen der Sumatra Expeditie*, *uitgerust door het Aardrijkskundig Genootschap* (1877—1879). Leiden, E. J. Brill.

Another very important collection was made by Mr. Beccari on the Mount Singalang and in its vicinity, partially in the coast region near Padang. This gentleman, though in first line occupied with botanical collections, obtained during the summer-months, from June to September 1878, 566 specimens, belonging to 179 different species, amongst which no less than 24 are described as new. Count Salvadori's description of this interesting collection is in more than one regard the most eminent publication on Sumatran Birds hitherto offered to Ornithologists. It is contained in the *Annali del Museo Civico di Storia Naturale di Genova*, Vol. XIV, p. 169—253 (1879), under the title of *Uccelli di Sumatra*.

During the same year (August 1878 to January 1879) and partially together with Mr. Beccari, Mr. Bock, a Swedish Naturalist, collected for Lord Tweeddale in the Highlands of Padang, and obtained about 800 specimens, referable to 166 species, 32 of which are not included in the lists given by Tweeddale and Salvadori. Three species have been described as new by Mr. Wardlaw Ramsay in the P. Z. S. 1880, p. 13. One of these, however, *Turdinus marmoratus*, was afterwards shown by Mr. Sharpe to be identical with *T. loricatus* (Müll.).

Two other collections were sent to the International Colonial Exhibition at Amsterdam, and are determined and enumerated by Dr. Jentink in the Exhibition Catalogue, p. 137 (1882). One of both belonged to Mr. F. von Faber, then Comptroller at Loeboe Basong, Priaman (Lowlands of Padang), and contained 36 species. The other was sent by Mr. van Schuylenburg, Assistent Resident at Moeara Doea (Palembang) and contained 43 specimens, representing 36 species. Both collections were afterwards presented to the Leyden Museum.

Very extensive collections were made during 1880 and 1881 by the well-known energetic traveller in the Dutch Indies, Mr. H. O. Forbes in the Residencies Lampong and Palembang, southern and south eastern Sumatra. They contained altogether 148 species, 74 of which were obtained in the Lampongs, and 74 in the Residency of Palembang, 15 from the first country having also been found in the latter. Both collections are described by Mr. Nicholson in Ibis 1882, p. 50—65 and 1883, p. 235—257, and also make part of the List of the Birds of Sumatra, given by Mr. Forbes in his book »A Naturalist's Wanderings in the Eastern Archipelago", p. 269 (1885).

Another, also important collection has been made in Deli, Eastern Sumatra, opposite to Perak (Malacca), in May 1884, and kindly presented by the collector, Dr. B. Hagen, to the Leyden Museum. It contained 112 species which show in a high degree the relationship to the Avifauna of Malacca.

Still another, though much smaller collection, also from Deli, was obtained by Mr. W. Dates and presented by his brother in law, Dr. ten Kate. It contained 34 specimens, referable to 23 species, many of which made not part of Dr. Hagen's collection.

The last important collection of Sumatran Birds was received from Dr. C. Klaesi, of late Surgeon in the Dutch East Indian Army, who, after the expiration of his service, bestowed the time from October 1884 to March 1885 upon zoological investigations in the coast region and the Highlands of Padang, especially in the southern part of the latter. From October 10 to November Dr. Klaesi made a trip along the coast from Padang to Priaman, with the intention to collect marine animals on the small Islands along the coast. Only few Birds, especially Waders, were collected during this trip.

After his return Dr. Klaesi proceeded to the Highlands, staid at Loeboe Soelasi from 5 to 12 November, at Soerian from 14 November to 1 January, at Moeara Laboe (also visited by Mr. Bock) from 2 to 25 January, all three latter places lying in the valley of the upper Batang Hari, and afterwards, from 28 January to 25 March, had his headquarters at Loeboe Gedang, in the valley of a southern confluent of the Batang Hari, at the northern foot of the Goenong Korintji (Pic of Indrapoera). In this last station and its vicinities the most important part of his rich collection was obtained. This place is not far from Bedar Alam, the most distant place from Padang, where ornithological collections were made by the Dutch Sumatra Expedition.

With the aid of his experienced huntsman and birdstuffer Senen, a native who previously accompanied the travellers Beccari and Bock, Dr. Klaesi collected, beside a great number of Mammals, Reptiles, Molluscs and Insects, about 1200 Birds, representing 189 species. This is, with the exception of Raffles' collection, the largest number of species, obtained by one and the same collector in Suma-

tra. As Dr. Klaesi made his collections during the winter, he obtained several migratory species, some of which have also been collected by Mr. Bock, who visited the same country, though only during the first winter months.

As the following list will sufficiently show the importance of this collection, I do not find it necessary to spend much space for an explanation of the most interesting species. I only call attention to the curious fact that Beccari, though his collection was considerably smaller than that of Dr. Klaesi, obtained 24 new species, while the collection of the latter contains only one, which I am much pleased to dedicate to its discoverer. Though undoubtedly many more species are still to be found in that vast Island, there will hardly any place be found to produce as many new ones as the country of Mount Singalang offered to Beccari. The following species are here, as far as I know, for the first time recorded as occurring in Sumatra:

Chrysoccyx maculatus (Gm.).
Serilophus lunatus Gould.
Buchanga stigmatops Sharpe.
Micropus melanoleucus (Eyt.).
Pitta cucullata Hartl.
Myiophoneus flavirostris (Horsf.).
Ortygometra cinerea (Hartl.).

Before I conclude these introductory lines, I have to offer Dr. Klaesi's thanks to the gentlemen who, as much as possible, facilitated his task. They are: Prof. Askenasy at Heidelberg, who kindly furnished his scientific outfit, Mr. J. L. L. van Leeuwen, Assistant Resident at Priaman, Mr. G. van Haren Karspel, Ass. Res. at Solok, Mr. de Lannoy, Comptroller at Moeara Laboe, Mr. L. Stibbe, at Loeboe Soelasi, Mr. Stolz at Soerian, Mr. van Maarsseveen at Loeboe Sampir, Mr. Steller at Oeloe Seliti, and Mr. H. Meyer, of the firm van Houten, Stephan & C°. — Although the Governor of the West Coast of Sumatra (since returned to Europe) neglected most

unkindly to recommend Dr. Klaesi to his different officers in the interior, the many acquaintences the latter made during his sojourn in the mountains enabled him to spend his time in the most successful way.

1. *Microhierax fringillarius.*

Falco coerulescens (nec L.), Horsf. Trans. Linn. Soc. XIII. p. 135 (1821); — Temm. P. C. I. 97 (1824); — Schl. Vog. Ned. Ind. Valkvogels, pp. 7, 48, pl. 2, fig. 1 (1866); id. Mus. P.-B., Revue Accip. p. 46 (1873).

Microhierax fringillarius (Drapiez, 1824), Sharpe, Cat. Birds Br. Mus. Vol. I. p. 367 (1874); — Tweedd. Ibis 1877, p. 286; — Salvad. Ucc. di Sumatra, p. 172 (1879).

4 specimens (3 ♂, 1 ♀).

»Bill and feet black, iris dark brown. Native name: *Sikko Kumbang.*"

2. *Haliaetus leucogaster.*

Falco leucogaster, Gm. S. N. I. p. 257 (1788); — Temm. P. C. I. 49 (1823).

Haliaetus leucogaster, Schl. Valkvogels (l. c.), pp. 9, 50, pl. 4, fig. 1, 2; id. Mus. P.-B., Revue Accip. p. 117 (1873).

2 specimens (1 ♂, 1 ♀).

»Iris light brown, marbled with dark brown, bill bluish horn-color, feet gray. Native name: *Alang laut.*

3. *Polioaetus humilis.*

Falco humilis, Müll. & Schl. Verhandelingen, Zool. Aves, p. 47, pl. 6 (1839—1844).

Pandion humilis, Schl. Valkvogels (l. c.), pp. 13, 53, pl. 5, fig. 3.

Haliaetus humilis, Schl. Mus. P.-B., Revue Accip. p. 119 (1873); — Snelleman, Sum. Exp. Vogels, p. 44 (1884).

Polioaetus humilis, Wall. Ibis 1868, p. 14; — Salvad. Ucc. di Borneo, p. 6 (1874); — Nicholson, Ibis 1883, p. 240.

1 specimen (ad. ♂).

»Bill brownish black, feet bluish white. Native name: *Alang peikan.*"

4. *Spilornis bacha.*

Spilornis bacha (Daud.), Gray, List Gen. B. I. Ed. p. 3 (1840); — Salvad. Ucc. di Sumatra, p. 173 (1879); — Nicholson, Ibis 1882, p. 52, and 1883, p. 239.

Circaetus bascha, Schl. Valkvogels (l. c.), pp. 36, 71, pl. 22; id. Revue Accip. p. 113 (1874).

Spilornis pallidus, Walden, Ibis 1872, p. 363; — Sharpe, Cat. Birds Br. Mus. Vol. I. p. 290, pl. IX (1873); — Nicholson, Ibis 1882, p. 52.

5 specimens (all females).

»Iris sulphur-yellow, round the eye chrome-yellow, feet dirty whitish yellow. Native name: *Alang tampien.*"

There are some very interesting differences in color amongst these specimens. The most aberrant of all makes the impression of being a young one, having nearly all the feathers on the upper surface, those of the occipital crest not excluded, more or less tipped with white, which is still more the case with the greater wing-coverts and the quills. The feathers on chin and throat are almost entirely white; those of the chest are brown with a white submarginal streak on each side. On the breast these streaks are represented by longitudinal rows of tolerably distinct white spots. Farther down these spots are very large and distinct, and make the impression of white cross-bars, especially on the thighs and still more on the under tail-coverts. The tail is very broadly tipped with white and has two broad and distinct white bars. The edge of the wing is pure white, the under surface almost entirely white, the under wing-coverts brown, with numerous very large white spots.

The second specimen differs from the common plumage by having scarcely any white dots on axillaries and wing-coverts, but by the quills and more especially the secondaries being very broadly tipped with white. The white area on the under surface of the wings is nearly as large as in the preceding specimen. The chest is brown and vermiculated with a somewhat darker tinge of the same color. The inner white bar on the tail is scarcely perceptible.

The third specimen is not dotted above at all, only the secondaries being tipped with white. The throat of this example is ashy grey, the chest grayish brown, without any vermiculations. The lesser wing-coverts are faintly tipped with clear brown.

The fourth specimen differs from the second by the ashy gray chin and throat, and by having the wing-coverts provided with two very obvious white dots at the tip of each feather.

The fifth is characterised by the want of clear spots on the upper surface. The lower surface is uniform brown without paler edgings and vermiculations on the chest. Breast, abdomen, flanks, thighs and under tail-coverts are covered with rounded white spots, without the least tendency to form cross-bars as is the case with the other specimens.

The length of the wing varies between 35 and 37,5 cm.

All five specimens are collected between the 15th of November and the 24th of December.

With the exception of the white edgings to the tips of the feathers on the upper surface and the two distinct white bars on the tail instead of a single one, which characters undoubtedly indicate a young stage of plumage, I consider all the many differences in color due to individual variation only, as is the case with our *Buteo vulgaris*, and not to sex, age nor locality. The strongest evidence for this opinion is the young specimen in the Leyden Museum, figured in Schlegel, l. c. pl. 22, fig. 3, which shows that the plumage of the young bird is, with the exception above mentioned, not different from that of the adult.

5. *Pernis ptilorhyncha.*

Falco ptilorkynchus, Temm. P. C. I. 44 (1823); — Müll. & Schl. Verh. Aves, p. 49, pl. 7 (1839—44).

Pernis cristatus (Cuv.), Schl. Valkvogels (l. c.), pp. 39, 73, pl. 25, 26 (1866); id. Revue Accip. p. 131 (1873); — Tweedd. Ibis 1877, p. 286.

Pernis ptilorhyncha, Salvad. Ucc. di Borneo, p. 9 (1874).

2 specimens (♀♀).

»Iris chrome-yellow, bill black, cere and feet yellow. Native name: *Alang bumbun*, *Alang Katutui*."

6. *Haliastur indus.*

Haliaetus indus (Bodd.), Schl. Valkvogels (l. c.), pp. 10, 51, pl. 4; id. Mus. P.-B., Revue Accip. p. 119; — Snelleman, Sum. Exp. Vogels, p. 45 (1884).

Haliastur intermedius, Gurney, Ibis 1865, p. 28; — Tweedd. Ibis 1877, p. 286; — Salvad. Ucc. di Sumatra, p. 173 (1879).

7 specimens.

»Iris brown, upper mandible whitish blue, lower whitish green, feet pale yellow. Native name: *Alang bondok*."

7. *Spizaetus limnaetus.*

Falco limnaëtus, Horsf. t. c., p. 138; — Temm. P. C. I. 134 (1823).

Falco caligatus, Raffl. Trans. Linn. Soc. XIII. p. 278 (1822).

Falco niveus, Temm. P. C. I. 127 (1823).

Spizaetus cirratus (Gm.), Schl. Valkvogels (l. c.), pp. 14, 53, pl. 6, 7; id. Mus. P.-B., Revue Accip. p. 52 (1873) (part.).

Spizaetus limnaetus (Gray), Sharpe, Cat. Birds Br. Mus. Vol. I. p. 272 (1874).

Limnaetus caligatus, Salvad. Ucc. di Sumatra, p. 172 (1879).

6 specimens (5 in fully adult, dark brown plumage, the sixth with some remains of white bars on the under surface of quills and tail feathers and on the upper tail-coverts).

»Iris dark brown, bill black, cere and feet orange-yellow. Native name: *Alang itam*."

8. *Astur trivirgatus.*

Falco trivirgatus, Temm. P. C. I. 303 (1824).

Astur trivirgatus, Schl. Valkvogels (l. c.), pp. 18, 57, pl. 10; id. Mus. P.-B., Revue Accip. p. 65 (1873); — Tweedd. Ibis 1877, p. 286; — Nicholson, Ibis 1882, p. 52.

2 specimens (ad. ♂♂).

»Iris, cere and feet lemon-yellow. Native name: *Sikko*."

9. *Accipiter virgatus.*

Falco virgatus, Temm. P. C. I. 109 (1823).
Accipiter stevensoni, Gurney, Ibis 1863, p. 447, pl. XI; id. Ibis 1875, p. 482; — Ramsay, P. Z. S. 1880, p. 14.
Nisus virgatus, Schl. Valkvogels (l. c.) pp. 20, 59, pl. 12 (1866); id. Mus. P.-B., Revue Accip. p. 74 (1874).
Accipiter virgatus, Sharpe, Cat. Birds Br. Mus. Vol. I. p. 150.

4 specimens (2 ♂, 2 ♀).

»Iris blood-red, cere yellowish green, feet lemon-yellow. Native name: *Sikko alang.*"

After having compared and measured the specimens of this species at my disposal, I cannot find sufficient reasons to keep *A. stevensoni* specifically distinct from *A. virgatus.*

I have now before me 13 specimens from Java, 3 from Banka, 5 from Sumatra, 5 from Malacca, 1 from China (Chefoo, Swinhoe), 1 from Nepal and 3 from Japan (*A. gularis*).

10. *Ninox scutulata.*

Strix scutulata, Raffl. t. c., p. 280.
Strix hirsuta, Temm. P. C. I. 289 (1824).
Noctua hirsuta et *N. hirsuta minor*, Schl. Mus. P.-B., Revue Noctuae, pp. 23, 24 (1873).
Ninox scutulata, Sharpe, Cat. Birds Br. Mus. Vol. II. p. 156 (1876); — Tweedd. Ibis 1877, p. 287; — Salvad. Ucc. di Sumatra, p. 174 (1879).

1 specimen (ad. ♂).

»Iris and feet orange-yellow. Native name: ?"

11. *Scops lempiji.*

Strix lempiji, Horsf. t. c., p. 140; — Raffl. t. c. p. 280.
Strix noctula, Temm. P. C. II. 99 (1824).
Scops lempiji, Schl. Mus. P.-B., Revue Noctuae, p. 10 (1873); — Salvad. Ucc. di Sumatra, p. 175 (1879); — Nicholson, Ibis 1882, p. 53.

1 specimen (♂).

Iris sulphur-yellow, feet whitish yellow. Native name: *Kua.*"

12. *Ketupa javanensis.*

Strix ketupa, Horsf. t. c., p. 141.
Strix ceylonensis (nec Gm.), Temm. P. C. II. 74 (1823).
Bubo javanensis, Schl. Mus. P.-B., Revue Noctuae, p. 6 (1873).
Ketupa javanensis (Less.), Sharpe, Cat. Birds Br. Mus. Vol. II. p. 8 (1875); — Salvad. Ucc. di Sumatra, p. 176 (1879); — Nicholson, Ibis 1882, p. 53; — Snelleman, Sum. Exp. Vogels, p. 45 (1884).

10 specimens (9 ad., 1 juv.).

»Iris lemon-yellow, bill brownish black, feet bluish gray. Native name: *Kua.*"

13. *Phodilus badius.*

Strix badia, Horsf. t. c., p. 139; — Temm. P. C. II. 318 (1825); — Schl. Mus. P.-B., Revue Noctuae, p. 17 (1873).
Phodilus badius, Is. Geoffr. Ann. Sc. Nat. XXI. p. 201 (1830); — Salvad. Ucc. di Borneo, p. 21 (1874).

1 specimen (♂).

»Iris?, feet straw-yellow. Native name: ?"

14. *Psittinus incertus.*

Psittinus incertus (Shaw), Salvad. Ucc. di Borneo, p. 25 (1874); — Tweedd. Ibis 1877, p. 292; — Nicholson, Ibis 1882, p. 57.
Psittacus malaccensis, Lath.; — Raffl. t. c. p. 231; — S. Müll. Verhandl. Land en Volkenk. p. 107 (1839—44).
Psittacus azureus, S. Müll. l. c. p. 377.
Psittacula incerta, Gray; — Schl. Mus. P.-B., Revue Psittaci, p. 32 (1874); — Snelleman, Sum. Exp. Vogels, p. 32 (1884).

7 specimens (3 ♂, 4 ♀).

»Iris straw-yellow, upper mandible crimson, lower yellowish gray, feet yellowish gray. Native name: *Tanan.*"

15. *Loriculus galgulus.*

Psittacus galgulus, L. S. N. I. p. 150 (1766); — Horsf. t. c. p. 182; — Raffl. t. c. p. 281; — S. Müll. Verh. Land- en Volkenk. pp. 107, 381 (1839—1844).
Loriculus galgulus, Bp. Consp. I. p. 6 (1850); — Schl. Mus. P.-B., Revue Psittaci, p. 62 (1874); — Tweedd. Ibis 1877, p. 292; — Snelleman, Sum. Exp. Vogels, p. 32 (1884).

17 specimens.

»Iris dark brown, bill black, feet ochraceous. Native name: *Silindi.*"

16. *Trogon erythrocephalus.*

Trogon erythrocephalus, Gould, P. Z. S. 1834, p. 25; id. Mon. Trog. pl. 33 (1838); — Snelleman, Sum. Exp. Vogels, p. 33 (1884).

Trogon flagrans, Müll. Tijdschr. Nat. Gesch. en Physiol. 1835, p. 338, pl. 8, fig. 2.

Pyrotrogon erythrocephalus, Cab. & Heine, Mus. Hein. IV. p. 160 (1863); — Salvad. Ucc. di Borneo, p. 28 (1874).

Pyrotrogon flagrans, Salvad. Ucc. di Sumatra, p. 176 (1879).

3 specimens.

»Iris in all three specimens brown, round the eye ultramarine, yielding to lilac, and also the bill, the point of which is black, feet minium-red. Native name: *Kassumbo merah.*"

A revision of the specimens of *T. erythrocephalus*, *T. hodgsoni* and *T. flagrans*, contained in the Leyden Museum convinces me that neither of the two latter ones are specifically distinct from the first. I have before me 8 specimens from Sumatra, 7 from Nepal and 2 marked »Hodgson" without any other indication. All the Sumatran specimens are somewhat smaller than those from the Continent, the wings measuring 12,8 to 13 cm. (= 5 inches, the length of wing noticed in the original description of *T. erythrocephalus*). The length of wing in our Indian examples varies between 13,8 and 14,8 cm.

There are three specimens in the Museum (one from Nepal and the two labelled »Hodgson") in which the red on breast, abdomen and under tail-coverts is but faintly represented on the sides of the breast and on some of the under tail-coverts, all the rest being pure white. All three specimens have the head, throat and chest olivaceous brown.

Amongst the three specimens from Dr. Klaesi's collec-

tion there are two with red heads and the third with a brown one. It may be worth of notice, that the latter is labelled as a male, while of the first two the one is labelled as a male, the other as a female. As Count Salvadori has already called attention upon this point (Ucc. di Sum. p. 176), it would not be very surprising to find one day that the birds are not erroneously labelled but that really very old females would assume the plumage of the adult male.

17. *Trogon Mackloti.*

Trogon Mackloti, Müll. Tijdschr. Nat. Gesch. en Physiol. 1835, p. 336, pl. 8, fig. 1; — Snelleman, Sum. Exp. Vogels, p. 33 (1884).

Hapalarpactes macloti, Salvad. Ucc. di Sumatra, p. 177 (1879).

10 specimens.

»Iris dark brown, circle round the eye ultramarine, bill blood-red, gonys green, feet orange-yellow. Native name: *Kassumbar.*"

Amongst the four specimens labelled ♂ is one with back and rump entirely green and without any indication of being a young bird, while among the females is one with a red rump. I therefore rather believe in a collectors mistake when fixing the labels to the birds.

18. *Trogon oreskios.*

Trogon oreskios, Temm. P. C. III. 181 (1823).

Orescius gouldii (Swains.), Salvad. Ucc. di Borneo, p. 31 (1874); — Nicholson, Ibis 1883, p. 240.

2 specimens (♂, ♀).

»Iris ashy gray, wattle round the eye, and feet cobalt-blue, base of bill ultramarine, point black. Native name: *Kassumbo guning.*"

19. *Psilopogon pyrolophus.*

Psilopogon pyrolophus, S. Müll. Tijdschr. Nat. Gesch. en Physiol. II. p. 339 (1835); — Salvad. Ucc. di Sumatra, p. 178 (1879); — Nicholson, Ibis 1883, p. 243.

Bucco pyrolophus, Temm. P. C. III. 597.
Megalaima pyrolopha, Goffin, Mus. P.-B., Buccones, p. 37 (1863); — Snelleman, Sum. Exp. Vogels, p. 35 (1884).

20 specimens.

»Iris chocolate-brown, bill greenish yellow, with a black cross-band down to the lower surface, feet bluish green. Native name: *Laweyan.*"

20. *Megalaema chrysopogon.*

Bucco chrysopogon, Temm. P. C. III. 285 (1824).
Megalaima chrysopogon, Marshall, Mon. Capit. pl. 18; — Goffin, Mus. P.-B., Buccones, p. 14 (1863); — Tweedd. Ibis 1877, p. 299; — Nicholson, Ibis 1882, p. 58; — Snelleman, Sum. Exp. Vogels, p. 35 (1884).
Chotorea chrysopogon, Salvad. Ucc. di Sumatra, p. 179 (1879).

37 specimens.

»Iris brown, bill black, feet grayish green. Native name: *Dagm-dagm gedang.*"

21. *Megalaema mystacophanos.*

Bucco mystacophanos, Temm. P. C. III. 315 (1824).
Megalaima mystacophanos, Marshall, Mon. Capit. pl. 19 (1870—71); — Goffin, Mus. P.-B., Buccones, p. 18 (1863); — Tweedd. Ibis 1877, p. 299; — Nicholson, Ibis 1882, p. 57; — Snelleman, Sum. Exp. Vogels, p. 35 (1884).
Megalaima Humei, Marshall, Ibis 1870, p. 536; id. Mon. Capit. pl. 21 (1871).
Chotorea mystacophanus, Salvad. Ucc. di Borneo, p. 34, pl. 1 (1874); id. Ucc. di Sumatra, p. 179 (1879).

8 specimens (4 ad. ♂, 2 ad. ♀, 2 jun. ♀).

»Iris dark brown, bill black, feet grayish green. Native name: *Dagm-dagm.*"

22. *Megalaema Henricii.*

Bucco Henrici, Boie, Briefe geschr. aus Ostind. No. 15 (1832); — Temm. P. C. III. 524 (1833); — Goffin, Mus. P.-B., Buccones p. 21 (1863).

1 specimen (ad. ♂).

»Iris brown, bill black, feet grayish green. Native name: *Dagm-dagm.*"

23. *Megalaema Oorti.*

Bucco Oorti, S. Müll. Tijdschr. Nat. Gesch. en Physiol. II. p. 341, pl. VIII, fig. 4 (1835).
Megalaima Oorti, Goffin, Mus. P.-B., Buccones, p. 21 (1863); — Marshall, Mon. Capit. pl. 27 (1870—71).
Cyanops Oorti, Salvad. Ucc. di Sumatra, p. 180 (1879).

6 specimens (♂ ♂).

»Iris dark brown, bill black, feet bluish green. Native name: *Dagm-dagm.*"

24. *Xantholaema haemacephala.*

Bucco haemacephalus, L. S. Müll. S. N. Suppl. p. 88 (1776).
Bucco philippensis, Raffl. t. c. p. 283.
Megalaima flavigula (Bodd.), Goffin, Mus. P.-B., Buccones, p. 24 (1863); — Snelleman, Sum. Exp. Vogels, p. 35 (1884).
Xantholaema haemacephala, Marsh. Mon. Capit. pl. 42 (1871); — Tweedd. Ibis 1877, p. 299; — Nicholson, Ibis 1883, p. 243.

12 specimens.

»Iris brown, bill black, feet vermilion. Native name: *Dagm ketjil.*"

25. *Xantholaema Duvaucelii.*

Bucco australis, Raffl. (nec Horsf.) t. c. p. 285.
Bucco Duvaucelii, Less. Tr. d'Orn. p. 164 (1831).
Megalaima Duvaucelli, Goffin, Mus. P.-B., Buccones, p. 28 (1863).
Xantholaema Duvaucelii, Marshall, Mon. Capit. pl. 33, fig. 1, 2 (1871); — Salvad. Ucc. di Borneo, p. 38 (1874); — Tweedd. Ibis 1877, p. 299.

4 specimens (2 ♂, 2 ♀).

»Iris brown, bill black, feet yellowish green. Native name: *Dagm-dagm ketjil.*"

26. *Calorhamphus fuliginosus.*

Bucco Lathami, Raffl. (nec Gmel.) t. c. p. 284.
Micropogon fuliginosus, Temm. P. C. text without pl. (adult) (1830).
Bucco Hayii, J. E. Gray, Zool. Miscell. p. 33 (jun.) (1832).

Megalorhynchus sanguinolentus (Less.), Sclater, P. Z. S. 1863, p. 210.
Calorhamphus fuliginosus, Goffin, Mus. P.-B., Buccones, p. 73 (1863); — Salvad. Ucc. di Borneo, p. 39 (1874); — Snelleman, Sum. Exp. Vogels, p. 35 (1884).
Caloramphus Hayi, Ramsay, P. Z. S. 1880, p. 14.

4 specimens.

»Iris brown, bill black or brownish yellow, feet minium-red. Native name: ?"

All four specimens, together with a fifth one (a pale-billed female which is retained by Dr. Klaesi) have been shot on the same day and in the same locality and most probably belong to one and the same flock. Unfortunately these specimens leave the question about the sexual differences in the color of the bill still unexplained, as there are two dark-billed specimens, one of which is labelled as a male, the other as a female, and the same is the case with the two pale-billed ones. As the specimens do not differ in the color of the plumage from each other, the difference in the color of the bill can only be due to the difference in sex, and the black-billed female as well as the pale-billed male might have been obtained by confounding their labels when fixing them to the birds.

All four specimens have chin and throat reddish brown and each feather tipped with yellow, and also is the specimen (dark billed male), collected by the Dutch Sumatra Expedition in 1877, as well as one of both specimens collected by S. Müller in that Island. The other of these two specimens however has chin and throat stone-red and cannot be distinguished from the red-throated Bornean specimens. One of the latter, collected by Schwaner, has chin and throat but slightly tinged with reddish brown instead of red, even much less than in Dr. Klaesi's specimens, and agrees perfectly well with the Malacca specimens, of which at this moment two are in our Museum.

Without supposing a change of labels in the mentioned red-throated Sumatran specimen and the pale brown-throated from Borneo, the specifical distinctness of Malaccan and

Sumatran specimens from those from Borneo can hardly be maintained, as Mr. Sclater l. c. and Count Salvadori propose in their respective papers on this subject. I should rather believe that we have to do with different stages of plumage according to the age, instead of with different species, that the pale green throat, slightly undulated with brown, is the plumage of the young bird, that the brown undulations increase with the age and that the stone-red throat is the stage assumed by the adult bird.

27. *Iyngipicus auritus.*

Picus moluccensis, Gm. S. N. I. p. 439 (1788).
Picus minor, Raffl. t. c. p. 290 (nec Linn.).
Iyngipicus fusco-albidus, Salvad. Ucc. di Borneo, p. 42 (1874); — id. Ucc. di Sumatra, p. 180 (1879); — Tweedd. Ibis 1877, p. 290; — Nicholson, Ibis 1882, p. 55.
Iyngipicus auritus (Eyton), Hargitt, Ibis 1882, p. 42; — Nicholson, Ibis 1883, p. 242.

4 specimens (1 ♂, 3 ♀).

»Iris brown, bill and feet gray. Native name: *Si ontong.*"

28. *Xylolepes validus.*

Picus validus (Reinwardt i. l.), Temm. P. C. IV. 378 (♂), 402 (♀) (1825).
Xylolepes validus, Cab. & Heine, Mus. Hein. IV, 2, Picidae, p. 108 (1863); — Salvad. Ucc. di Borneo, p. 43 (1874); id. Ucc. di Sumatra, p. 181 (1879); — Tweedd. Ibis 1877, p. 240; — Nicholson, Ibis 1882, p. 54; id. Ibis 1883, p. 242.

2 specimens (ad. ♂, jun. ♂).

»Adult male: Iris orange-yellow, upper mandible brown, lower black, feet dirty flesh-color."

»Young male: Iris brown, upper mandible pale brown, lower pale ochre, feet dark brown."

»Native name: *Si ontong vimba.*"

29. *Hemicercus sordidus.*

Picus concretus, Temm. (part.) P. C. IV. 90 (descr. mari jun. sed non fig.) ex Banka et Sumatra; — Snelleman, Sum. Exp. Vogels, p. 38 (1884).

Hemicercus concretus, Blyth, J. A. S. B. XIV. p. 195 (1845).
Dendrocopus sordidus, Eyt. Ann. & Mag. Nat. Hist. XVI, p. 229 (♀) (1845).
Hemicercus coccometopus, Rchb. Handb. Picinae, p. 401 (sed non descr. ♂ ad.). t. 656, fig. 4364—65 (1854).
Hemicercus sordidus, Cab. & Heine, Mus. Hein. IV, 2, p. 177 (1863); — Salvad. Ucc. di Borneo, p. 46 (1874); — Tweedd. Ibis 1877, p. 291; — Hume, Stray Feathers, 1877, p. 128. — Salvad. Ucc. di Sumatra, p. 181 (1879); — Sharpe, Ibis 1879, p. 241.
Hemicercus brookeanus, Salvad. Atti R. Acad. Sc. di Torino. III. p. 525 (1868); id. Ucc. di Borneo, p. 44 (1874).

3 specimens (2 ad. ♂, 1 ad. ♀).

»Iris brown, bill black, feet dark gray. Native name: *Si ontong*."

There exists a great confusion in literature about the different forms of this genus which successively has been split into five species, adding to the above mentioned ones that of *H. Hartlaubii* Malh. The most eminent students of Indian and Malayan Ornithology agree that the number of species must be reduced. Salvadori in his »Uccelli di Borneo," doubts somewhat as to the specific distinctness of all the different species, after having united *H. coccometopus* Rchb. with *H. sordidus* Eyton. The Marquis of Tweeddale (Ibis 1877, p. 291) also unites *H. brookeanus* Salvad. with *H. sordidus* Eyton. He considers the Javan *H. concretus* Temm. *seu H. Hartlaubii* Malh. to be a distinct species on account of the entirely red crest in adult males and points out that the confusion between the two species derived from an immature stage of plumage of *H. sordidus*, in which the postoccipital if not the whole crest is flame-colored and which stage occasionally was mistaken for the real red-crested *H. concretus*. According to this author the occurrence of this species beyond Java rests on no good authority. Mr. Hume in his »Birds of Tenasserim"(l. c.) also acknowledges but two species, uniting the entirely red-crested *H. Hartlaubii* Malh. with *H. concretus* of Temminck, and all the other species with gray postoccipital crest, under

the head of *H. sordidus* Eyton, though he yields to the opinion that no distinctive characters can be based upon the color of the crest, but that if both species are really distinct, there must be sought for better characters. Mr. Hume cannot agree with the Marquis of Tweeddale that *H. concretus* seu *Hartlaubii* is restricted to Java only, and mentions the description of fully red-crested specimens from Sumatra by Temminck, the occurrence of such Birds in Borneo according to Malherbe and Salvadori (the latter seems to have some doubts as to the trustworthiness of this locality) and a specimen from Malacca, considered by Mr. Gould to be *H. concretus*. A bird from Nealys (Malacca), considered by Mr. Hume to be a true *H. concretus* (l. c. p. 129), is most probably a nearly adult male, having got already the red crown, while the red occipital plumes are not yet replaced by the gray ones of the adult stage.

Mr. Sharpe (Ibis 1879, p. 241) also throws some light upon this question, though it is not clear to me, why *H. sordidus*, which seems to him to be a distinct species, would have to bear the older title of *H. concretus*. As to the occurrence of *H. Hartlaubii*, Mr. Sharpe considers the localities mentioned by Mr. Hume (vide supra) trustworthy except that of Borneo, and thinks its entirely red crest a good character for distinguishing the species, but would nevertheless not be surprised if it afterwards would turn out to be the very old full-plumaged stage of *H. sordidus*.

A careful examination of all our Museum specimens of this genus, amongst which the types of Temminck's *Picus concretus* from Java, Banka — not Banda, as is erroneously mentioned in the letterpress to pl. 90 — and Sumatra are still contained, convinced me of the impossibility of keeping more than two species — the entirely red-crested Javan form (*H. concretus*) and that with gray postoccipital crest from other localities (*H. sordidus*) — as really distinct. Our Museum Collection contains five specimens from Java, two from Borneo, four from Banka, eight from Sumatra and one from the Continent (Singapore).

Amongst the Javan specimens are both, the young orange-red-crested male with the fawncolored forehead and the adult female, figured on plate 90 (P.C.), and I must say that figures and coloration are very correct. Besides these two specimens are a second female and two entirely red-crested adult males (*H. Hartlaubii* Malh.), which latter have the crest of a very lively vermilion instead of orange-red, and which I think to be nothing but the fully adult stage of Temminck's *P. concretus*. All our adult male specimens from other localities are red-capped with a gray postoccipital crest, not excluded those mentioned by Temminck from Banda (read Banka) and Sumatra. Our material shows very clearly that Temminck counfounded in some way Javan with Sumatran specimens, as we possess no entirely red-crested specimens neither from Banka nor from Sumatra and when he says, when speaking of the birds generally, that those with the gray postoccipital crest (*H. sordidus*) are young males assuming the plumage of the adult, he could only mean Sumatra and Banka specimens, as we possess no such ones from Java.

When speaking of the difference of the Sumatran specimens, he leaves entirely out of consideration those from Banka, which omission could lead to the conclusion that the latter would be identical with those from Java, while they really cannot be distinguished from those from Sumatra.

As to the specimens from all hitherto known localities, except from Java, I fully agree with the Marquis of Tweeddale, that they all undoubtedly belong to one and the same species, of which the oldest title — that of *H. concretus* restricted to the Javan species, figured by Temminck on plate 90 — would be *H. sordidus* Eyton.

The essential distinguishing characters of both species can be formulated as follows:

1. *Hemicercus concretus*, Temm. P. C. IV. 90 (nec descr. mar. jun.); — Rchb. Scansoriae, p. 401, tab. 656, fig. 4361—63.

Hemicercus Hartlaubii, Malh.

Adult male: Whole upper surface of the head and whole crest lively vermilion.

Adult female: Upper surface of the head and whole crest entirely gray, with a more or less olivaceous tinge.

Young male: Entire crown and crest fawn-colored, changing afterwards through orange-red into the vermilion of the adult stage, beginning on the occipital crest and proceeding afterwards onto the forehead.

Hab. Java, as specimens from other localities, exactly similar to the Javan fully adult male, are still wanting in collections.

2. *Hemicercus sordidus*, Eyt. (♀).

Adult male: Entire crown and foremost occipital feathers deep vermilion, perceptibly deeper than in the preceding species, though not crimson as Mr. Hume has called this color; postoccipital crest olivaceous gray.

Adult female: Exactly similar to that of the preceding species.

Young male: Entire crown and occipital crest fawn-colored, leaving sometimes the tips to the occipital feathers brown. In a more advanced stage the fawn color of the long feathers of the crest changes gradually — apparently not by a moult — into a dull vermilion, leaving the olive brown tips, where such existed, intact. Further on the worn out red feathers of the crest are replaced in the way of a moult by the gray ones of the fully mature stage. At the same time, also by a moult, the fawn-colored crown becomes speckled by young feathers of a lively vermilion, which at first is the same as in the adult *H. concretus*, but soon afterwards, when the whole crown has changed into red, assumes its darker appearance. The material upon which these observations are based, is collected by the Dutch Scientific Expedition to Sumatra, in 1877. Now it happens, that the crown assumes its red appearance before the red crest has changed by moult into gray; it is most probably upon such specimens that

the name of *H. Hartlaubii* has been applied whenever this species is mentioned as coming from somewhere else than Java.

In another young male, from Banka, the red on the occipital feathers occupies only the bassal portions, the tips being left fawn-color, and these very worn-looking feathers are already for a great deal replaced by the young gray ones of the adult stage, without any beginning of the appearance of the red feathers on the crown.

All other characters, as differences in the size, and the coloration of the other parts, as under surface and rump, are quite accidental and hardly able to base a species — not even a local variety or difference in age or sex — upon.

Hab. Malacca, Sumatra, Banka, Borneo.

30. *Lepocestes porphyromelas.*

Picus porphyromelas, Boie, Briefe aus Ostind. p. 143 (1832).
Picus rubiginosus, Eyton, Ann. & Mag. Nat. Hist. XVI, p. 229 (1845).
Lepocestes porphyromelas, Salvad. Ucc. di Borneo, p. 48 (1874); id. Ucc. di Sumatra, p. 181 (1879).

1 specimen (♀).

»Iris blood-red, bill ochraceous, feet dark brown. Native name: *Si ontong.*"

31. *Callolophus puniceus.*

Picus puniceus, Horsf. t. c. p. 176; — Temm. P. C. IV. 423.
Callolophus puniceus, Salvad. Ucc. di Borneo, p. 49 (1874); — Tweedd. Ibis 1877, p. 288; — Nicholson, Ibis 1882, p. 54.
Picus miniatus, Snelleman, Sum. Exp. Vogels, p. 38 (1884).

4 specimens (ad. ♂).

»Iris blood-red, upper mandible brown, lower dirty lemon-yellow, feet dirty lemon-yellow. Native name: *Si ontong.*"

32. *Callolophus mentalis.*

Picus mentalis, Temm. P. C. IV. 384 (1826).
Callolophus mentalis, Salvad. Ucc. di Borneo, p. 51 (1874); id. Ucc. di Sumatra, p. 181 (1879); — Tweedd. Ibis 1877, p. 288; — Nicholson, Ibis 1882, p. 55.

5 specimens.

»Iris blood-red, round the eyes and base of bill dirty chrome-green, point bluish white, only the edge and upper mandible black, feet dirty green. Native name: *Si ontông.*"

33. *Callolophus malaccensis.*

Picus malaccensis, Lath. Ind. Orn. I. p. 241 (1790).
Chloropicus miniatus Malh. Mon. Pic. II. p. 116, pl. 76, fig. 1, 2 (1862).
Venilia malaccensis, Sclat. P. Z. S. 1863, p. 211.
Callolophus malaccensis, Salvad. Ucc. di Borneo, p. 50 (1874); id. Ucc. di Sumatra, p. 182 (1879); — Tweedd. Ibis 1877, p. 289.

18 specimens (8 ♂, 10 ♀).

»Iris blood-red, upper mandible dark brown, lower whitish blue, feet grayish green. Native name: *Si ontong merah.*"

Our seven Javan specimens (*C. miniatus*, Forster), which I compared with those from other localities, seem to me to be sufficiently distinct to form a really good species, as they all — even young birds with much yellow in the postoccipital crest — are easily distinguished by the lively flame-colored occipital crest and by having the interscapulary feathers entirely washed with red in such a manner that no pure green feathers are left. Our material from other localities contains 10 specimens from Borneo, 5 from Banka and 8 from Sumatra, to which I can join the 18 above mentioned ones, collected by Dr. Klaesi. Alle these examples differ very strikingly by the duller red of the crown and occipital crest, by having more yellow postoccipital crest-feathers and the interscapulary feathers, which are green and more or less, but never entirely, tinged with red.

Count Salvadori, in his »Uccelli di Sumatra", believes that the females of this species are distinguished from the males by the whitish speckles on chin and throat, and therefore considers one of his specimens with a uniform rusty brown throat to be a male though it is labelled as a female. The great number of sexed specimens at my disposal shows however to evidence, that those whitish spots

are a character of young birds only, while fully adult specimens of both sexes have chin and throat uniform rusty brown.

34. *Chrysophlegma mystacalis.*

Chrysophlegma mystacalis, Salvad. Ucc. di Sumatra, p. 182 (1879); — Nicholson, Ibis 1883, p. 242.

3 specimens (♀).

»Iris reddish brown, bill lead-color, feet grayish green. Native name: *Si ontong.*"

35. *Tiga javanensis.*

Picus javanensis, Ljungh, Act. Stockh. XVIII. p. 134, t. 6 (1797).
Picus tiga, Horsf. t. c. p. 177; — Raffl. t. c. p. 290; — Snelleman, Sum. Exp. Vogels, p. 38 (1884).
Tiga javanensis, Tweedd. Ibis 1877, p. 288; — Salvad. Ucc. di Sumatra, p. 183 (1879).

11 specimens (7 ♂, 4 ♀).

»Iris reddish brown, bill lead color, feet grayish green. Native name: *Si ontong.*"

36. *Tiga Rafflesii.*

Picus Rafflesii, Vig. App. Mem. Raffl. p. 669 (1831).
Tiga rafflesii, Tweedd. Ibis 1877, p. 288.
Gauropicoides rafflesii, Salvad. Ucc. di Borneo, p. 54 (1874).

1 specimen (♂).

»Iris reddish brown, bill blackish. Native name: *Si ontong.*"

The plumage of this specimen does not differ from that of the adult female.

37. *Miglyptes grammithorax.*

Phaiopicus grammithorax, Malh. Mon. Pic. II. p. 12, pl. 48, fig. 4, 5 (1862).
Meiglyptes tristis, Salvad. Ucc. di Borneo, p. 56; id. Ucc. di Sumatra, p. 184 (1879); — Tweedd. Ibis 1877, p. 290; — Nicholson, Ibis 1882, p. 55.
Miglyptes grammithorax, Hargitt, Ibis 1884, p. 191.

4 specimens (1 ♂, 3 ♀).

»Iris reddish brown, bill black, feet blackish gray. Native name: *Si ontong.*"

As Mr. Hargitt, and already before him Mr. F. Nicholson (On some Birds from W. Java, Ibis 1879, p. 164), pointed out, this species is really distinct from the Javan *M. tristis* (Horsf.) which latter is easily distinguished by its entirely black breast and abdomen. A comparison of our material in the Leyden Museum — 3 specimens (*M. tristis*) from Java, 11 from Borneo, 2 from Banka and 9 from Sumatra — has fully confirmed this opinion.

38. *Micropternus brachyurus.*

Picus brachyurus, Vieill. N. Dict. XXVI. p. 103 (1818); — Snelleman, Sum. Exp. Vogels, p. 38 (1884).
Picus badius, Raffl. t. c. p. 289.
Micropternus badius, Reichb. Handb. Picinae, p. 403, pl. 658, fig. 4374; — Tweedd. Ibis 1877, p. 289; — Salvad. Ucc. di Sumatra, p. 184 (1879); — Nicholson, Ibis 1882, p. 55.
Micropternus brachyurus, Hargitt, Ibis 1885, p. 10.

7 specimens (6 ♂, 1 ♀).

»Iris reddish brown, bill black, feet blackish brown. Native name: *Si ontong.*"

39. *Chrysococcyx maculatus.*

Trogon maculatus, Gm. S. N. I. p. 404.
Chrysococcyx smaragdinus, Blyth, J. A. S. B. 1846, p. 53.
Chrysococcyx Hodgsoni, Moore, Cat. Mus. E. I. Comp. II. p. 705 (1858).
Cuculus Hodgsoni, Schl. Mus. P.-B., Cuculi, p. 32 (1864).
Lamprococcyx maculatus, Walden, Ibis 1869, pp. 334, 338.

2 specimens (♂ ♂).

»Iris chocolate-brown, bill black at tip, rest orange-yellow, feet dark brown. Native name: ?"

The beautiful emerald-green color on upper surface, throat and chest, and the ditto cross-bars on the rest of the lower surface would not allow to confound these specimens with such of any other species. One of them has assumed the fully developed plumage of the adult, the second, in not less

splendid green plumage, has a few feathers on front and chin still barred with white. Like the adult specimens from India, contained in our Museum, they both have the narrow white longitudinal stripe on each of the three first primaries, a character which also distinguishes this species as far as I know from any other of this genus. I do not find that this species ever before has been recorded from Sumatra nor from any other Island of the Archipelago.

40. *Chrysococcyx xanthorhynchus.*

Cuculus xanthorhynchus, Horsf. t. c. p. 179; — S. Müll. Verh. Land- en Volkenk. p. 234; — Schl. Mus. P.-B., Cuculi, p. 32 (1864).
Chrysococcyx xanthorhynchus, Tweedd. Ibis 1877, p. 237; — Salvad. Ucc. di Borneo, p. 62 (1874).

1 specimen (young ♂).

»Iris minium-red, edge round the eye chrome-red; bill black. Native name: ?"

This specimen has all the feathers on the fore-head, a broad superciliary streak, and the sides of the head white, with some indications of bronze-green crossbands.

41. *Surniculus lugubris.*

Cuculus lugubris, Horsf. t. c. p. 175; — S. Müll. Verh. Land- en Volkenk. p. 178; — Schl. Mus. P.-B., Cuculi, p. 28 (1864).
Surniculus lugubris, Tweedd. Ibis 1877, p. 287; — Salvad. Ucc. di Sumatra, p. 184 (1879).

7 specimens (4 ♂, 3 ♀).

»Iris dark brown, bill black, feet slaty gray. Native name: *Tuih.*"

42. *Cacomantis pravata.*

Cuculus pravata, Horsf. t. c. p. 179.
Cuculus fasciolatus, S. Müll. Verh. Land- en Volkenk. p. 178 (1839—1844).
Cuculus Sonnerati, Schl. Mus. P.-B., Cuculi, p. 23 (partim) (1864).
Penthoceryx pravatus, Salvad. Ucc. di Borneo, p. 63 (1874); id. Ucc. di Sumatra, p. 185 (1879); — Nicholson, Ibis 1882, p. 54.

2 specimens (♂ and ♀).

»Iris brown, upper mandible black, lower whitish blue, feet grayish green. Native name: *Sipitoeh.*"

43. *Cacomantis merulina.*

Cuculus merulinus, Scop. Del. Flor. et Faun. Insubr. p. 89 (1786); — Schl. Mus. P.-B., Cuculi, p. 21 (1864).
Cuculus flavus, Gm.; — S. Müll. Verh. Land- en Volkenk. p. 177.
Cacomantis merulinus, Salvad. Ucc. di Borneo, p. 64; id. Ucc. di Sumatra, p. 185 (1879).

11 specimens (7 ad. ♂, 4 ♀).

»Iris reddish brown, upper mandible black, lower yellow at base, yielding to ochraceous towards the tip, feet orange yellow. Native name: *Sipitoeh.*"

44. *Hierococcyx fugax.*

Cuculus fugax, Horsf. t. c. p. 178.
Cuculus varius, Schl. Mus. P.-B., Cuculi, p. 14 (partim) (1864).
Hierococcyx fugax, Salvad. Ucc. di Borneo, p. 65 (1874); id. Ucc. di Sumatra, p. 185 (1879); — Tweedd. Ibis 1877, p. 288.

5 specimens (2 ♂, 3 ♀).

»Iris orange, edged with pale ochre, bill: basal half and utmost tip greenish yellow, the rest black, bare skin round the eyes and the feet orange-yellow. Native name: ?"

45. *Cuculus concretus.*

Cuculus concretus, S. Müll. Verh. Land- en Volkenk. pp. 236, 355; — Schl. Mus. P.-B., Cuculi, p. 13 (1864); — Salvad. Ucc. di Borneo, p. 66 (1874).

2 specimens (♂ ♂).

»Iris pale brown, bill black at tip, rest greenish yellow, feet yellow. Native name: *Pangang kako.*"

In one of the specimens the lower surface is strongly tinged with fulvous instead of pure white; excepting this particularity its appearance is quite that of *C. concretus*, and not of *C. striatus.*

46. *Coccystes coromandus.*

Cuculus coromandus, L. S. N. I. p. 171 (1766).
Cuculus coromandelicus, Müll. Verh. Land- en Volkenk. p. 234.
[*Coccystes coromandus*, Schl. Mus. P.-B., Cuculi, p. 43 (1864).

2 specimens (♂, ♀).

»Iris brown, bill blackish, feet bluish gray. Native name: ?"

This species seems to be rare in Sumatra, as it is not recorded from that Island since S. Müller, from whom one specimen is contained in our Museum collection. Since Prof. Schlegel's Catalogue is issued, the Museum has also received specimens from Banka and some more from Java and Borneo. The male of Dr. Klaesi's specimens (both in adult dress and with fully developed crest) has the throat but slightly tinged with fulvous, which color is very strongly pronounced in the female.

47. *Eudynamis orientalis.*

Cuculus orientalis, L.; — Horsf. t. c. p. 178; — Müll. Verh. Land- en Volkenk. p. 176; — Schl. Mus. P.-B., Cuculi, p. 16 (1864).
Eudynamis malayana, Cab. & Heine, Mus. Hein. IV. p. 52 (1862); — Walden, Ibis 1869, pp. 339, 340; — Salvad. Ucc. di Borneo, p. 68 (1874).

1 specimen (young ♂).

»Iris carmine. Native name: *Tembono* (Javan)."

As the question about the different races, united by Prof. Schlegel under above name, is still far from definitively settled, I prefer to enumerate the Sumatran bird under this name rather than under that of *E. malayana*.

48. *Rhinorta chlorophaea.*

Cuculus chlorophaeus, Raffl. t. c. p. 288.
Phoenicophaus chlorophaeus, Müll. Verh. Land- en Volkenk. p. 234; — Schl. Mus. P.-B., Cuculi, p. 51 (1864); — Snelleman, Sum. Exp. Vogels, p. 34 (1884).
Rhinorta chlorophaea, Salvad. Ucc. di Borneo, p. 69 (1874); id. Ucc. di Sumatra, p. 186 (1879); — Tweedd. Ibis 1877, p. 287; — Nicholson, Ibis 1882, p. 54; id. Ibis 1883, p. 242.

6 specimens (4 ♂, 2 ♀).

»Iris brown, bare skin bluish green, bill sea-green, feet bluish gray. Native name: *Bunai andu.*"

Amongst the four males there are three in which the color of the head is not different from that of the other parts and one with a gray head; all both females have the head gray.

49. *Rhopodytes elongatus.*

Phoenicophaës elongatus, S. Müll. Tijdschr. Nat. Geschied. en Physiol. II. p. 542, pl. 9, fig. 1 (1835); id. Verh. Land- en Volkenk. p. 234; — Schl. Mus. P.-B., Cuculi, p. 55 (1864); — Salvad. Ucc. di Borneo, p. 70 (1874); — Snelleman, Sum. Exp. Vogels, p. 34 (1884).

14 specimens.

»Iris blood-red, bare skin carmine, bill sea-green, feet bluish gray. Native name: *Bunai andu.*"

50. *Rhopodytes Diardi.*

Melias Diardi, Less. Tr. d'Orn. p. 132 (1831).

Phoenicophaës sumatranus (part.), Schl. Mus. P.-B., Cuculi, p. 53 (1864); — Snelleman, Sum. Exp. Vogels, p. 34 (1884).

Rhopodytes Diardi, Tweedd. Ibis 1877, p. 287; — Hume, Stray Feathers, 1878, p. 163; — Salvad. Ucc. di Sumatra, p. 186 (1879); — Nicholson, Ibis 1882, p. 53.

10 specimens.

»Iris ashy gray, bare skin round the eyes blood-red, bill sea-green, feet blackish. Native name: *Bunai andu.*"

Prof. Schlegel, in his above cited Catalogue of the *Cuculi*, erroneously applied the name *Phoenicophaës Diardi* to the Indian and Ceylonese specimens of *Rhop. viridirostris* (Jerd.) and united the true *Ph. Diardi* (Less.) with *Ph. sumatranus* (Raffl.), supposing that the brown vent and under tail-coverts would only be an individual character (»les sous-caudales ordinairement d'un rouge-brun qui se répend quelquefois sur le ventre, mais cette teinte se trouve, dans certains individus, et indépendammant du sexe et de l'âge, remplacée par du noirâtre").

Count Salvadori (Uccelli di Borneo, p. 73) supposes that the specimens from Borneo with gray vent, mentioned by Schlegel in his Catalogue under the head of *Ph. sumatranus* will belong to his smaller, ochraceous-chested *Rhopodytes borneensis* (Bp.). Schlegel however has not mentioned such specimens at all, all three ones from that Island (No. 1—3 of his Catalogue) having the vent brown and thus belonging to the true *Rhopodytes sumatranus*.

Amongst the specimens however, received since the Catalogue is issued, there are two specimens from Borneo, one of which, collected by Mr. Bock in the south eastern part of that Island, undoubtedly belongs to *Rhop. Diardi* having no tinge of ochraceous on the chest, while the other, acquired from Mr. Frank in 1864, is *Rhop. borneensis* (Bp.) as described by Salvadori (Ucc. di Borneo, p. 72).

The present state of this part of our Collection is as follows:

Rhopodytes tristis (Less.).

7 specimens (2 Himalaya, 2 Darjeeling, 1 Nepal, 1 Tenasserim, 1 Bootan (young).

Rhopodytes viridirostris (Jerd.).

5 specimens (2 Ceylon, 2 Hindostan, 1 India).

Rhopodytes elongatus (S. Müll.).

2 specimens (Sumatra).

Rhopodytes borneensis (Bp.).

1 specimen (S. E. Borneo).

Rhopodytes Diardi (Less.).

12 specimens (1 Malay Penins., 1 Penang, 16 Sumatra, 1 Borneo, 1 Banka, 2 locality unknown).

Rhopodytes sumatranus (Raffl.).

14 specimens (3 Sumatra, 5 Banka, 5 Borneo, 1 locality unknown).

51. *Rhamphococcyx erythrognathus.*

Cuculus melanognathus, Raffl. (nec Horsf..) t. c. p. 287.

Phoenicophaus viridirufus, S. Müll. Verh. Land- en Volkenk. p. 234 (partim).

Phoenicophaeus erythrognathus, Hartl. Verz. Mus. Brem. p. 95 (1844); — Schl. Mus. P.-B., Cuculi, p. 49 (1864); — Snelleman, Sum. Exp. Vogels, p. 34 (1884).

Rhamphococcyx erythrognathus, Salvad. Ucc. di Borneo, p. 74 (1874); id. Ucc. di Sumatra, p. 186 (1879); — Nicholson, Ibis 1883, p. 242.

Rhopodytes erythrognathus, Tweedd. Ibis 1877, p. 287.

17 specimens.

»Iris of the male bluish gray, of the female orange-yellow, bare skin blood-red, upper mandible sea-green, lower blood-red, point sea-green, feet leaden gray. Native name: *Bunai andu.*"

52. *Centrococcyx rectunguis.*

Centropus rectunguis, Strickl.; — Schl. Mus. P.-B., Cuculi, p. 67 (1864); — Snelleman, Sum. Exp. Vogels, p. 34 (1884).

Centrococcyx javanensis (Dum.), Wald. Trans. Z. S. VIII. p. 58 (1872); — Salvad. Ucc. di Borneo, p. 76 (1874); id. Ucc. di Sumatra, p. 188 (1879); — Nicholson, Ibis 1883, p. 241.

6 specimens (1 ♂, 5 ♀).

»Iris red, bill and feet slaty. Native name: *Trakot.*"

About the synonymy of this species the same must be said as about that of *Eudynamis orientalis.*

53. *Centropus eurycercus.*

Centropus eurycercus, Hay; — Schl. Mus. P.-B., Cuculi, p. 66 (1864); — Tweedd. Ibis 1877, p. 288; — Nicholson, Ibis 1882, p. 54; — Snelleman, Sum. Exp. Vogels, p. 34 (1884).

Centrococcyx eurycercus, Salvad. Ucc. di Borneo, p. 78 (1874); id. Ucc. di Sumatra, p. 188 (1879); — Nicholson, Ibis 1883, p. 241.

12 specimens.

»Iris red, bill and feet black. Native name: *Boeboet.*"

54. *Buceros rhinoceros.*

Buceros rhinoceros, L. S. N. I, p. 153 (1766); — Raffl. t. c. p. 291; — Müll. & Schl. Verh. Zool. Aves, pp. 21, 25, 26; — Schl. Mus. P.-B., Buceros, p. 3 (1862); — Salvad. Ucc. di Sumatra,

p. 191 (1879); — Elliot, Mon. Bucer. pl. 4; — Nicholson, Ibis 1883, p. 240.

30 specimens (24 ♂, 6 ♀).

Iris and color of bill and feet in adult male, see Nicholson (l. c.).

Adult female: »Iris whitish yellow, other parts like in the male, but without the narrow black stripe, which in the male separates the upper portion of the horn from the lower."

Young: »Iris ashy gray."

Native name: »*Angang kalong*."

55. *Anthracoceros convexus.*

Buceros albirostris, Horsf. (nec Shaw) t. c. p. 175.
Buceros malabaricus, Raffl. (nec Gm.) t. c. p. 291.
Buceros convexus, Temm. P. C. II. 530 (♀) (1832); — Schl. Mus. P.-B., Buceros, p. 7 (1862); — Snelleman, Sum. Exp. Vogels, p. 33 (1884).
Hydrocissa convexa, Salvad. Ucc. di Borneo, p. 80 (1874).
Hydrocissa albirostris, Nicholson, Ibis 1882, p. 56.
Anthracoceros convexus, Elliot, Mon. Bucer. pl. 12; — Nicholson, Ibis 1883, p. 240.

2 specimens (♀♀).

»Iris brownish red, bill whitish yellow, marked with black, bare skin white, tinged with blue, between eye and bill pale blue. Native name: *Angang tiranga*."

56. *Anthracoceros malayanus.*

Buceros malayanus, Raffl.t.c. p. 292; — Temm. P. C. II. text (1832); — Müll. & Schl. Verh. Zool. Aves, pp. 23, 25, 29; — Schl. Mus. P.-B., Buceros, p. 7 (1862).
Buceros anthracinus, Temm. P. C. II. 529 (1832).
Hydrocissa malayana, Salvad. Ucc. di Borneo, p. 83 (1874); — Nicholson, Ibis 1882, p. 56.
Anthracoceros malayanus, Elliot, Mon. Bucer. pl. 15; — Ramsay, P. Z. S. 1880, p. 14.

1 specimen (♀).

»Iris dark rusty, bare skin flesh-color, bill and feet black. Native name: ?"

57. *Rhytidoceros undulatus.*

Buceros undulatus, Shaw, Gen. Zool. VIII. p. 26 (1811).
Buceros plicatus, Lath.; — Schl. Mus. P.-B., Buceros, p. 2.
Rhytidoceros obscurus, Salvad. Ucc. di Borneo, p. 85 (1874).
Rhytidoceros undulatus, Tweedd. Ibis 1877, p. 292; — Salvad. Ucc. di Sumatra, p. 190 (1879); — Elliot, Mon. Bucer. pl. 35.
Rhytidoceros subruficollis, Nicholson, Ibis 1883 . 241.

11 specimens (10 ♂, 1 ♀).

Adult male: »Iris orange-red, a very narrow inner edge pale ochre, bare skin round the eyes madder-red, gular skin pale chrome-yellow with an ultramarine cross-band, bill horny white, feet slaty black."

Young male (with only one faintly developed fold on the ridge of the culmen): »Iris orange-red, inner edge mixed with brown, bare skin, bill and feet like in adult male. Plumage black, only the superciliary region intermixed with yellow feathers."

Adult female (with five folds on the culmen): »Iris fox-red, mixed with brown, a narrow inner edge sulphur-yellow, bare skin round the eyes wine-red, gular skin pale blue, with a violet-blue cross-band, bill and feet like in adult male."

Native name: »*Angang mussin.*"

The deep blue cross-band on the gular pouch in the dried skin of some specimens is scarcely perceptible, though Dr. Klaesi has very minutely mentioned it in all his specimens. I feel therefore pretty sure that the specimen collected by Mr. Forbes in Sumatra and mentioned by Mr. Nicholson (l. c.) as *Rh. subruficollis* will belong to *Rh. undulatus.*

58. *Anorrhinus comatus.*

Buceros comatus, Raffl. t. c. p. 339; — Temm. P. C. II. text (1830); — Müll. & Schl. Verh. Zool. Aves, pp. 23, 29, pl. 4 (ad. ♂) (1839—44); — Schl. Mus. P.-B., Buceros, p. 8 (1862).
Buceros lugubris, Begbie, Malay Penins. 1834, p. 513.
Berenicornis comatus, Bp. Consp. Av. p. 91 (1850).
Anorrhinus comatus, Elliot, Mon. Bucer. pl. 39.

3 specimens (ad. ♂, ad. ♀ and jun. ♂).

No soft parts mentioned.

The adult male is black, with the entire head and neck, breast, an anal spot, tail, tips to the quills and under primary coverts white, while the adult female has only the crest, entire tail and tips to the wing-coverts white. The young male, in transitional stage of plumage, agrees quite well with the description given by Raffles, with the exception of the bill, which in our specimen is white with a dark brown spot on each side of the upper mandible.

Another young male, collected at Priaman by Mr. von Faber, is somewhat more advanced towards maturity, having the white tips to the black tail-feathers longer than is the case with the present specimen.

59. *Anorrhinus galeritus.*

Buceros galeritus, Temm. P. C. II. 520 (1831); — Müll. & Schl. Verh. Zool. Aves, pp. 23, 25, 28; — Schl. Mus. P.-B., Buceros, p. 8 (1862).

Anorrhinus galeritus, Salvad. Ucc. di Borneo, p. 79 (1874); — Tweedd. Ibis 1877, p. 292; — Salvad. Ucc. di Sumatra, p. 189 (1879); — Elliot, Mon. Bucer. pl. 42.

13 specimens (7 ♂, 4 ♀, 2 ?).

»Iris reddish brown, paler towards the edge; bill black, feet dirty grayish green, toes blackish, naked skin surrounding the eyes, and throat cobalt-blue (♂). Native name: *Angang kéké.*"

60. *Cranorrhinus corrugatus.*

Buceros corrugatus, Temm. P. C. II. 531 (♂) (1832); — Müll. & Schl. Verh. Zool. Aves, pp. 24, 25, 31 (1839—1844); — Schl. Mus. P.-B., Buceros, p. 9 (1862).

Buceros gracilis, Temm. P. C. II. 535 (♀) (1832).

Cranorrhinus corrugatus, Salvad. Ucc. di Borneo, p. 86 (1874).

1 specimen (ad. ♂), Mount Singalang.

»Iris dark red. Native name: ?"

61. *Rhinoplax vigil.*

Buceros vigil, Forsten, Zool. Ind. p. 40 (1781).
Buceros scutatus, Bodd. Tabl. Pl. Enl. p. 55; — Schl. Mus. P.-B., Buceros, p. 1 (1862).
Buceros galeatus, Gm.; — Raffl. t. c. p. 291; — S. Müll. Verh. Land- en Volkenk. p. 439; — Müll. & Schl. Verh. Zool. Aves, pp. 25, 32 (1839—1844).
Rhinoplax scutatus, Horsf. & Moore; — Salvad. Ucc. di Borneo, p. 88 (1874); id. Ucc. di Sumatra, p. 191 (1879).
Rhinoplax vigil, Elliot, Mon. Bucer. pl. 10.

5 specimens (3 ♂, 2 ♀).

»Iris fox-red, somewhat paler in the female, bare skin pale blue with a greenish tinge, marked across with deep blue vermiculations, posteriorly Berlin-blue (in another female the ground-color of the bare skin is said to be Naples-yellow), bill red, anterior part sulphur-yellow, feet red. Native name: *Angang gudun.*"

62. *Merops sumatranus.*

Merops sumatranus, Raffl. t. c. p. 294; — Tweedd. Trans. Z. S. IX. p. 150, pl. 26, fig. 2 (1873); id. Ibis 1877, p. 297; — Salvad. Ucc. di Sumatra, p. 192 (1879); — Nicholson, Ibis 1882, p. 56; id. Ibis 1883, p. 243.
Merops badius, Schl. (nec Gm.) Mus. P.-B., Merops, p. 3 (1863); — Snelleman, Sum. Exp. Vogels, p. 36 (1884).

15 specimens (ad. and juv.).

Adult: »Iris carmine, bill black, feet bluish gray."
Juv. »Iris brown. Native name: *Beri-beri.*"

63. *Nyctiornis amicta.*

Merops amictus, Temm. P. C. IV. 310 (1824); — Schl. Mus. P.-B., Merops, p. 13 (1863); — Snelleman, Sum. Exp. Vogels, p. 36 (1884).
Nyctiornis amicta, Tweedd. Ibis 1877, p. 298; — Salvad. Ucc. di Sumatra, p. 192 (1879); — Nicholson, Ibis 1882, p. 56.

10 specimens.

»Iris orange, bill black, feet bluish green. Native name: *Kumbang.*"

64. *Pelargopsis javana.*

Alcedo capensis, L. S. N. I. p. 180 (1766, ex Briss.).
Alcedo javana, Bodd. Tabl. Pl. Enl. 757 (1783, ex Buff.).
Alcedo leucocephala, Gm. S. N. I. p. 456 (1788, ex Lath.); — Raffl. t. c. p. 293; — Schl. Mus. P.-B., Alced. p. 13 (1863); id. Ois. Ind. Neerl., Martins Pêcheurs, p. 46, pl. II, figs. 2, 3, 4 (1864); id. Revue Alced. p. 7 (1874) (with synonymy).
Pelargopsis fraseri, Sharpe, P. Z. S. 1870, p. 65; id. Mon. Alced. pl. 33; — Tweedd. Ibis 1877, p. 296; — Salvad. Ucc. di Sumatra, p. 194 (1879); — Nicholson, Ibis 1882, p. 56; id. Ibis 1883, p. 243.
Dacelo leucocephala, Snelleman, Sum. Exp. Vogels, p. 35 (1884).

3 specimens.

»Iris brown, eyelid vermilion, bill and feet lake-red. Native name: *Radjah udang.*"

After having carefully examined the numerous specimens in our Museum, I came to the conclusion, that Prof. Schlegel was quite right when uniting all the different species mentioned by Mr. Sharpe in P. Z. S. 1871 and in his Monograph on the Kingfishers; as it seems really impossible to me to make out the species in all our different specimens of this group, without the aid of the locality mentioned on the labels. As the Linnean name *capensis* must be rejected, Boddaert's name *javana* will have the priority above *leucocephala* Gm.

65. *Ceyx rufidorsa.*

Alcedo tridactyla, L.; — Raffl. t. c. p. 293.
Ceyx rufidorsa, Strickl. P. Z. S. 1846, p. 99; — Sharpe, Mon. Alced. text, p. 121; id. P. Z. S. 1868, p. 592; id. P. Z. S. 1869, p. 511; — Tweedd. Ibis 1877, p. 297; — Nicholson, Ibis 1883, p. 243.
Dacelo rufidorsa, Schl. Mus. P.-B., Alced. p. 48 (1863); id. Ois. Ind. Neerl., Martins Pêcheurs, pp. 40, 67, pl. 16, f. 1 (1864); id. Mus. P.-B., Revue Alced. p. 33 (1874) (part.); — Snelleman, Sum. Exp. Vogels, p. 36 (1884).
Ceyx innominata, Salvad. Ucc. di Borneo, p. 97 (1874).

1 specimen (♂).

»Iris dark brown, bill and feet scarlet. Native name: *Sapi udong ketjil.*"

66. *Halcyon coromanda.*

Alcedo coromanda, Lath. Ind. Orn. I. p. 252 (1790).
Dacelo coromanda, Schl. Mus. P.-B., Alced. p. 25 (1863); id. Revue Alced. p. 16 (1874).
Halcyon coromanda, Sharpe, Mon. Alced. pl. 57.

2 specimens.

»Iris brown, bill and feet orange-red."

67. *Halcyon pileata.*

Alcedo pileata, Bodd. Tabl. Pl. Enl. p. 41 (1783).
Alcedo atricapilla, Gm.; — Raffl. t. c. p. 293.
Dacelo pileata, Schl. Mus. P.-B., Alced. p. 27 (1863); id. Revue Alced. p. 18 (1874).
Halcyon pileata, Tweedd. Ibis 1877, p. 296; — Nicholson, Ibis 1883, p. 243.

1 specimen.

»Iris dark brown, bill and feet red. Native name: *Sapi udang.*"

68. *Sauropatis chloris.*

Alcedo chloris, Bodd. Tabl. Pl. Enl. p. 49 (1783).
Alcedo chlorocephala, Gm.; — Raffl. t. c. p. 293.
Dacelo chloris, Schl. Mus. P.-B., Alced. p. 32 (1863); id. Revue Alced. p. 21 (1874); — Snelleman, Sum. Exp. Vogels, p. 36 (1884).
Sauropatis chloris, Tweedd. Ibis 1877, p. 296; — Salvad. Ucc. di Sumatra, p. 194 (1879).

9 specimens.

»Iris brown, upper mandible black, lower whitish at base, feet ashy gray. Native name: *Si kiki.*"

69. *Collocalia fuciphaga.*

Hirundo fuciphaga, Thunb. Act. Holm. 33, p. 151, pl. 4 (1772).
Hirundo esculenta, Horsf. (nec L.), t. c. p. 142; — Raffl. t. c. p. 315.

Cypselus fuciphagus, S. Müll., Verh. Land- en Volkenk. p. 456 (1839—44).
Collocalia nidifica, G. R. Gray, Gen. B. I. p. 55 (1848).
Collocalia fuciphaga, Salvad. Ucc. di Borneo, p. 120 (1874).

1 specimen.

No soft parts mentioned.

70. *Macropteryx longipennis.*

Hirundo longipennis, Rafin. Bull. Sc. Soc. Philom. III. p. 158 (1804).
Hirundo klecho, Horsf. t. c. p. 143.
Cypselus longipennis, Temm. P. C. IV. 83, f. 1 (1823).
Macropteryx longipennis, Tweedd. Ibis 1877, p. 299.
Cypselus klecho, Snelleman, Sum. Exp. Vogels, p. 38 (1884).

13 specimens.

»Iris dark brown, bill and feet black. Native name: *Lajang.*"

71. *Macropteryx comata.*

Cypselus comatus, Temm. P. C. IV. 268 (1824).
Dendrochelidon comata, Sclat. Cypselidae, P. Z. S. 1865, p. 617; — Salvad. Ucc. di Borneo, p. 123 (1874).
Macropteryx comata, Tweedd. Ibis 1877, p. 298; — Salvad. Ucc. di Sumatra, p. 196 (1879); — Nicholson, Ibis 1882, p. 58.

11 specimens.

»Iris, bill and feet black. Native name: *Lajang betul.*"

72. *Chaetura coracina.*

Acanthylis coracina, Bp. Consp. Av. I. p. 64 (1850).
Cypselus coracinus, Schl. Handl. Dierk. I. pp. 221, 479; pl. 2 (Vogels) f. 14 (1857).
Acanthylis leucopygialis, Blyth, J. A. S. B. 1858, p. 809.
Chaetura coracina, Sclat. Cypselidae, P. Z. S. 1865, p. 614; — Salvad. Ucc. di Sumatra, p. 197 (1879).

2 specimens.

»Iris and bill black, feet brown. Native name: *Lajang ketjil.*"

73. *Hirundinapus giganteus.*

Cypselus giganteus, Temm. P. C. IV. 364 (1825).
Chaetura gigantea, Sclat. Cypselidae, P. Z. S. 1865, p. 608. (Sumatra, Mus. Lugd.).
Hirundinapus giganteus, Salvad. Ucc. di Borneo, p. 124 (1874).

1 specimen (♂).

This specimen is not different from our typical specimen with which I compared it, and the rusty brown lores are distinctly visible.

»Iris brown, bill black, feet slaty. Native name: *Lajang gedang.*"

74. *Hirundinapus Klaesii*, spec. nov.

H. nudipedi similis, sed minor; mentum gulaque totis, plumis occipitis et nuchae dimidio basali griseo brunneis.

Very similar to *H. nudipes* Hodg., but considerably smaller. Chin and throat, base of the feathers on occiput and hind neck, and inner web of the innermost secondaries grayish smoky instead of white. Entire crown, down to the base of the bill, lores, sides of head and neck, occiput, hind neck, lesser wing-coverts, outer web of innermost secondaries, a stripe running from the base of the tibiae to the rump, rump and upper tail-coverts glossy bluish green, scapularies and back smoky brown, becoming pale straw-color towards the centre of the back; upper surface of wing and tail blackish brown with a somewhat purplish gloss, inner edge of quills, lower surface of wing and tail, chest, breast, abdomen, flanks and thighs smoky brown, a stripe from the base of thighs to the root of the tail and under tail-coverts pure white; the well developed spines to the tail-feathers like in *H. nudipes*.

»Iris dark brown, bill black, naked tarsi, toes and claws brown."

The comparative measurements of both species in question are as follows:

	Long. tot.	alae	cauda	spin.	culmen	tarsi
H. nudipes	18 cm.	19	5,6	0,4	0,9	1,6
H. Klaesii	16,5 »	17,2—17,4	5,1	0,6	0,75	1,6

Native name: »Lajang gedang", like in the preceding species, and killed together with the latter at Loeboe Gedang, 18 Febr. 1885.

Before describing the two specimens as new, I have much hesitated, thinking that they afterwards might turn out to be the young of the first year of *H. nudipes* on their first winter migration, and that the gray color on throat and bases to the feathers of the hind neck and on the inner web of the innermost secondaries would become pure white in the second year. On the other hand, however, the fine metallic gloss on the dark upper parts, so characteristical in adult birds, in connection with the considerably smaller size, induced me to consider the birds specifically distinct. I can really hardly think that migrating young birds, when once arrived in Sumatra would still have to grow in order to reach the size of *H. nudipes*.

I have compared this species with *H. nudipes* which I consider to be sufficiently distinct from the Australian *H. caudacutus* by the want of the white or grayish white loral spot, which latter is always found in Australian specimens. As to the Indian form, so often — and of late by Mr. Dresser in his Birds of Europe — identified with the Australian, I cannot believe that any quite authentical specimen will have the white loral spot, and therefore much agree with Mr. A. Hume, who decidedly and repeatedly has defended the same opinion. (See Stray Feathers, IX, pp. 230, 286).

75. *Eurystomus orientalis.*

Coracias orientalis, L. S. N. I. p. 159 (1766); — Raffl. t. c. p. 302.
Eurystomus orientalis, Schl. Mus. P.-B., Coraces, p. 139 (1867); — Salvad. Ucc. di Borneo, p. 105 (1874); — Snelleman, Sum. Exp. Vogels, p. 37 (1884).

10 specimens (5 ♂, 5 ♀).

»Iris chocolate-brown, bill and feet coral-red. Native name: *Tiong lampej.*"

Peculiarly enough this species is, except by Snelleman,

not recorded from Sumatra since Raffles' time. At present it is represented in our Museum by specimens collected by the Dutch Sumatra Expedition and by Dr. Klaesi in the Highlands of Padang, and by Dr. Hagen in Deli (East coast of Sumatra).

Having looked through our series of nearly 100 specimens of this species, from the most different localities, I fully adhere to the opinion of the late Prof. Schlegel, that the specimens of the Indian, Indo-Malayan and Australian region must be considered as belonging to one and the same species and cannot be separated into *E. orientalis* and *pacificus*, as Count Salvadori and others propose to do.

76. *Psarisomus psittacinus.*

Eurylaimus psittacinus, Müll. Tijdschr. Nat. Gesch. en Phys. II. p. 349, pl. V, f. 6 (1835); — Temm. P. C. III. 297 (1836).
Psarisomus psittacinus, Salvad. Ucc. di Sumatra, p. 198 (1879).

2 specimens (♂ and ♀).

»Iris dirty yellow (♂), dirty rusty red (♀); bill and feet greenish blue. Native name: *Pipi lurejan.*"

The female is similar in color to the male. Certainly the female specimen mentioned by Salvadori (l. c.) with the head green instead of black and the throat green instead of yellow must be an immature bird. One of our Museum specimens (♀ jun.) agrees exactly with the mentioned specimen and has not only the outer web of the two outermost pairs of tail-feathers entirely green, but even the inner tail-feathers are strongly tinged with green, while two newly developed ones have the outer web and a portion of the inner entirely blue. Count Salvadori observed that specimens from Nepal, (*P. Dalhousiae*) have the tail-feathers strongly tinged with green, and that the tail is constantly shorter. I have found the same in our two specimens from Nepal, and this being the only distinguishing characters of the Nepal birds, it will be advisable to keep both species as yet united under the name of *P. psittacinus.*

77. *Eurylaimus ochromelas.*

Eurylaemus ochromelas, Raffl. t. c. p. 297; — Salvad. Ucc. di Borneo, p. 108 (1874); — Tweedd. Ibis 1877, p. 317; — Salvad. Ucc. di Sumatra, p. 198 (1879); — Nicholson, Ibis 1882, p. 64; — Snelleman, Sum. Exp. Vogels, p. 37 (1884).
Eurylaimus cucullatus, Temm. P. C. III. 261 (1824).

7 specimens (5 ♂, 2 ♀).

»Iris chrome-yellow; upper mandible at the base pale ultramarine, resting part green, lower mandible edged with black; the other parts and feet bluish rosy. Native name: *Templanah.*"

Count Salvadori says that the female wants the black pectoral band, but in one of the above said two females this band is as strongly pronounced as in the adult males, while on the other hand in a male (possibly a young one) this band is wanting. Perhaps the mentioned female may have been erroneously sexed.

78. *Cymborhynchus macrorhynchus.*

Todus macrorhynchus, Gm. S. N, I. p. 446 (1788).
Eurylaimus lemniscatus, Raffl. t. c. p. 296.
Eurylaimus nasutus, Temm. P. C. III. 154 (1823).
Cymborhynchus malaccensis, Salvad. Atti R. Ac. Sc. Torino, IX, p. 425 (1874).
Cymborhynchus macrorhynchus, Salvad. Ucc. di Borneo, p. 109; — Tweedd. Ibis 1877, p. 317; — Hume, Stray Feathers VI. p. 92 (1878); — Salvad. Ucc. di Sumatra, p. 199 (1879); — Nicholson, Ibis 1882, p. 64; id. Ibis 1883, p. 254; — Snelleman, Sum. Exp. Vogels, p. 37 (1884).

18 specimens.

»Iris metallic green with a golden gloss, bill ultramarine, except the lower mandible, which is yellowish green on its lower surface towards the base, feet black. Native name: *Mugkoplano.*"

After having gone through the material at my disposal, altogether about fifty specimens from the Continent, Malacca, Sumatra (amongst which specimens from Deli, opposite to Malacca), Banka and Borneo, I cannot have any doubt as to

the identity of the specimens from all the mentioned localities. Amongst Dr. Klaesi's specimens are two in which the four exterior pairs of tail-feathers have the oblique white spot on the inner web decidedly developed, six in which the white exists on three pairs only, eight with two pairs, one with two, of which the inner one scarcely perceptible, and one which shows but a very slight indication of white at the inner edge of the outermost pair. About the same is the case with the ten specimens which were already contained in our collection, amongst which is one which easily could pass for an entirely unspotted specimen. All our specimens from Banka (8) show the white very distinctly, and also do those from Deli, Malacca and Cambodja. As to our material from Borneo (6 specimens), there are one having three pairs with distinct white spots, two with two pairs, two very faintly marked with white on the outermost pair only, and one with no white at all.

79. *Corydon sumatranus.*

Coracias sumatranus, Raffl. t. c. p. 303.
Eurylaimus corydon, Temm. P. C. III. 297 (1824).
Corydon sumatranus, Salvad. Ucc. di Borneo, p. 111 (1874); — Tweedd. Ibis 1877, p. 317; — Salvad. Ucc. di Sumatra, p. 200 (1879); — Nicholson, Ibis 1882, p. 64.
Eurylaemus sumatranus, Snelleman, Sum. Exp. Vogels, p. 37 (1884).

3 specimens (♀♀).

»Iris brown, bare skin round the eyes and base of bill rosy, the latter however varied with white; point of bill cobalt-blue, feet black. Native name: *Limpi limpi.*"

80. *Serilophus lunatus.*

Serilophus lunatus, Gould, Trans. Z. S. I. pl. 25.

1 specimen (♂).

»Iris golden green, bill orange-red at base, other parts cobalt blue, feet pale green."

Probably a young specimen, as the narrow white semicircular collar round chest and sides of the neck is wanting.

Though our Museum contained already three beautiful specimens from Sumatra (Kubang) collected by Horner, I cannot find that this species is hitherto mentioned in literature as to be found in this Island.

81. *Niltava grandis.*

Chaitaris grandis, Blyth, J. A. S. B. XI, p. 189; XII, p. 940.
Niltava grandis, Gray, Gen. B. I. p. 264; — Ramsay, P. Z. S. 1880, p. 14.

2 specimens (♂ ♂, ad. et jun.).

»Iris dark brown, bill and feet black."

The younger male differs from the adult in having the whole plumage intermixed with ochraceous-tipped feathers.

82. *Alseonax latirostris.*

Muscicapa latirostris, Raffl. t. c. p. 312.
Muscicapa cinereo-alba, Temm. & Schl. Faun. Jap. p. 42, pl. 15 (1850).
Alseonax latirostris, Cab. Mus. Hein. I, p. 52 (1850); — Salvad. Ucc. di Borneo, p. 129.

1 specimen (unsexed).

»Iris dark brown, bill black, base dirty orange-yellow, feet black. Native name: *Bubik.*"

Perfectly according to the above cited plate in the Fauna Japonica.

83. *Stoparola thalassinoides.*

Glaucomyias thalassoides, Cab. Mus. Hein. I, p. 53 (note) (1850).
Stoparola thalassinoides, Salvad. Ucc. di Borneo, p. 132 (1874).

1 specimen (♂).

»Iris blue, bill and feet black."

84. *Terpsiphone affinis.*

Tchitrea affinis, Blyth, J. A. S. B. XV, p. 292.
Tschitraea Paradisii, Schl. Dierentuin, p. 147, with fig. (1872).
Terpsiphone affinis, Salvad. Ucc. di Borneo, p. 137 (1874).

1 specimen (immature male).

»Iris black, bill and feet cobalt-blue."

85. *Philentoma velatum.*

Drymophyla velata, Temm. P. C. III. 334 (♂) (1825).
Philentoma velatum, Blyth, Cat. Birds Mus. A. S. B. p. 204 (1849); — Salvad. Ucc. di Borneo, p. 139 (1874).

2 specimens (♂ and ♀).

»Iris blood-red, bill and feet black."

The specimen, labelled ♀, does in no respect differ from the male.

86. *Artamus leucogaster.*

Ocypterus leucogaster, Valenc. Mém. du Mus. H. N. VI. p. 21, t. VII, f. 2 (1820).
Lanius leucorhynchus, Raffl. t. c. p. 306.
Artamus leucorhynchus, Salvad. Ucc. di Borneo, p. 140 (1874); — Tweedd. Ibis 1877, p. 313.
Artamus leucogaster, Salvad. Ucc. di Sumatra, p. 204 (1879); — Snelleman, Sum. Exp. Vogels, p. 42 (1884).

19 specimens.

»Iris dark brown, bill and feet bluish gray. Native name: *Lajang lajang babi.*"

87. *Pericrocotus xanthogaster.*

Lanius xanthogaster, Raffl. t. c. p. 309.
Pericrocotus xanthogaster, Horsf. & Moore, Cat. Birds Mus. E. I. Co. I. p. 142; — Tweedd. Ibis 1877, p. 315; — Nicholson, Ibis 1883, p. 246.

10 specimens (6 ♂, 4 ♀).

»Iris dark brown, bill and feet black. Native name: *Kassumbo metah ketjil.*"

A specimen, labelled ♂, differs from the adult female only by an orange-red tinge on rump, upper tail-coverts, throat and lower surface of the tail.

88. *Lalage terat.*

Turdus dominicus, L. S. Müll. S. N. Suppl. p. 145 (1776).
Turdus terat, Bodd. Tabl. Pl. Enl. p. 17 (1783).
Lanius striga, Raffl. t. c. p. 305.
Lalage dominica, Tweedd. Ibis 1877, p. 313.
Lalage terat, Salvad. Ucc. di Sumatra, p. 206 (1879).

3 specimens.

»Iris dark brown, bill and feet black. Native name: *Kapé kapé.*"

89. *Lalage culminata.*

Ceblepyris culminatus, Hay, Madr. Journ. XIII. p. 157 (1844).
Ceblepyris fimbriatus, Müll. Verh. Land- en Volkenk. p. 190 (1839—1844) (partim).
Volvocivora schierbrandii, Salvad. Ucc. di Borneo, p. 148 (1874).
Volvocivora culminata, Tweedd. Ibis 1877, p. 312.
Lalage culminata, Sharpe, Cat. Birds Br. Mus. IV. p. 104 (1879).

3 specimens (♂ and ♀).

»Iris brown, bill and feet black."

90. *Artamides sumatrensis.*

Ceblepyris novae guineae, Müll. Verh. Land- en Volkenk. p. 190 (1839—1844) (nec Gm.).
Ceblepyris sumatrensis, Müll. l. c.
Graucalus sumatrensis, Salvad. Ucc. di Borneo, p. 150 (1874); — Tweedd. Ibis 1877, p. 312.
Graucalus striatus, Snelleman, Sum. Exp. Vogels, p. 41 (1884).

8 specimens.

»Iris sulphureous, bill and feet black."

Three of the specimens are labelled as males, though they cannot be distinguished from adult females in color and size. If the specimens are really males, they must be young, having not yet assumed the dress of the adult.

91. *Irena crinigera.*

Coracias puella, Raffl. t. c. p. 302 (nec Lath.).
Edolius puellus, Temm. P. C. III. 70, 476, 225 (nec Lath.).

Irena cyanea, Salvad. Ucc. di Borneo, p. 15; id. Ucc. di Sumatra, p. 207 (1879).
Irena turcosa, Sharpe, Ibis 1876, p. 44.
Irena crinigera, Sharpe, Cat. Birds Br. Mus. III. p. 267 (1877); id. l. c. VI. p. 176 (1881); — Nicholson, Ibis 1882, p. 60.
Irena puella, Snelleman, Sum. Exp. Vogels, p. 42 (1884).

42 specimens (both sexes in different ages).

»Iris red, bill and feet black. Native name: *Sikurajo.*"

All adult males (27 in number) can easily be distinguished from the Malaccan *I. cyanea* by the under tail-coverts, reaching nearly or entirely the tip of the tail-feathers, or even (in several specimens) a little beyond. A specimen from Deli (Eastern Sumatra) has the under tail-coverts much shorter and may be considered a true *I. cyanea.* I have also compared the adult males with the only adult one in our Museum said to be from Java, but although the label bears Temminck's own handwriting, I hardly think that it is the specimen figured in P. C. 70. On this plate the upper tail-coverts (the lower are not visible) do not reach the tip of the tail-feathers, while in the specimen in question they fully do so. This specimen is in no way distinct from Sumatran ones and if I were quite certain that it was really from Java, I should not hesitate a moment to declare *I. crinigera* identical with the Javan *I. turcosa.*

92. *Chibia sumatrana.*

Dicrurus sumatranus, Ramsay, P. Z. S. 1880, p. 15.

7 specimens (4 ♂, 3 ♀).

»Iris vermilion, bill and feet black. Native name: *Saweh itam.*"

Beside an original specimen from Mr. Bock's collection, our Museum was already in possession of a fine adult specimen of this species, collected by S. Müller in the Highlands of Padang, which stood in the collection under the name of *Edolius carbonarius.* Mr. Ramsay, in his above cited original description, compares this species with *Ch.*

bimaensis Bp. I should rather have compared it with *Ch. carbonaria* (Bp.), which, I think, stands nearer on account of the dark bases to the fluffy feathers on the sides of the lower back. The Sumatran species is however at once distinguished from *Ch. carbonaria* by its much shorter tail, of which the lateral feathers show a slight tendency to curl out- and upward. The metallic steel-blue spangles on the feathers of chest and sides of neck are larger than in both above mentioned species, and the metallic purplish coronal feathers, which have a strongly pronounced gloss of steel-green, are broader and larger and form a much more conspicuous metallic coronal patch than in any other species of *Chibia*. Wing 14,3—15 cm., tail 10,5—11, tars. 2,2, bill from front 3,3—3,5.

93. *Chaptia malayensis.*

Chaptia malayensis, A. Hay, J. A. S. B. XV, p. 294 (1846); — Salvad. Ucc. di Borneo, p. 153 (1874); — Tweedd. Ibis 1877, p. 315; — Salvad. Ucc. di Sumatra, p. 207 (1879); — Nicholson, Ibis 1883, p. 245.

Edolius picinus, Bonap. (apud S. Müll.) Consp. Av. I. p. 352 (1850).

4 specimens (2 ♂, 2 ♀).

»Iris chocolate, bill and feet black. Native name: *Saweh itam.*"

94. *Buchanga stigmatops.*

Buchanga stigmatops, Sharpe, P. Z. S. 1879, p. 247.

Dicrurus cineraceus, Snelleman (nec Horsf.), Sum. Exp. Vogels, p. 42 (1884).

11 specimens.

»Iris vermilion, bill and feet black. Native name: *Saweh.*"

All these specimens, as well as the two collected by the Dutch Sumatra Expedition, agree in every respect with the description given by Mr. Sharpe.

95. *Bhringa remifer.*

Edolius remifer, Temm. P. C. III. 178.

Bhringa remifer, Sharpe, Cat. Birds Br. Mus. Vol. III. p. 257 (1877); — Ramsay, P. Z. S. 1880, p. 14.
Dicrurus remifer, Snelleman, Sum. Exp. Vogels, p. 42 (1884).

5 specimens.

»Iris red, bill and feet black. Native name: *Saweh itam.*"

96. *Dissemurus platurus.*

Dicrurus platurus, Vieill. N. D. IX. p. 588 (1817).
Edolius retifer, Temm. P. C. III. 1823 (together with *E. remifer*) (partim).
Edolius brachyphorus, Bp. (apud Temm.) Consp. Av. I. p. 351 (1850); — Schl. Handl. Dierk. p. 479 (Vog. pl. 2, fig. 24) (1857).
Dissemurus brachyphorus, Salvad. Ucc. di Borneo, p. 154 (1874).
Dissemurus platurus, Tweedd. Ibis 1877, p. 313; — Salvad. Ucc. di Sumatra, p. 208 (1879); — Nicholson, Ibis 1882, p. 67.
Dicrurus paradiseus, Sharpe, Cat. Birds Br. Mus. Vol. III. p. 258 (1877); — Snelleman, Sum. Exp. Vogels, p. 42 (1884).

37 specimens.

»Iris vermilion, bill and feet black. Native name: *Saweh itam.*"

Before I received this large collection I had, according to the view of Salvadori, Tweeddale and others, the Bornean specimens separated from the Sumatran under the name of *D. brachyphorus*. Lord Tweeddale (Ibis 1877, p. 315) says about the distinctness of both: »Count Salvadori somewhat doubts the propriety of separating the Bornean from the Malaccan *Dissemurus*; but the much smaller spatulate termination of the outer pair of rectrices seems to be a constant character in the adults of the Bornean species; and I have examined a very large series, both at Leiden and in my own collection, from Labuan, Sarawak and Banjarmassing."

In fact, a comparison of the specimens standing in our Museum before the arrival of Dr. Klaesi's collection was able to support this view. Though the difference between the largest spatule in Bornean examples and the smallest in Sumatran would not signify much, it could not be denied and was to be considered a distinguishing character.

The examination of Dr. Klaesi's specimens has entirely upset my opinion, as amongst the 35 from the 37, which come into consideration, there are about 12 which with some possibility might be recognized as Sumatran specimens by the somewhat larger spatules on the outermost rectrices, while in the other 23 the spatules are of the same size and even smaller than the larger ones in Bornean specimens. As there are no other characters to distinguish Bornean from Sumatran specimens, both are in future to be united under the name given by Vieillot. Specimens from Banka belong to the same species, and the same is the case with another from the Island Salanga. No crested specimens are found amongst the whole series.

97. *Hemipus intermedius.*

Hemipus intermedius, Salvad. Ucc. di Sumatra, p. 209 (1879).

1 specimen (sex not mentioned).

»Iris sienna yellow, bill and feet black."

This little fly-catching Shrike is only distinguished from *Hemipus intermedius* by having the upper tail-coverts black instead of white, and by having not only the four lateral pairs of tail-feathers, but also the fifth, though very faintly, tipped with white. Like the type of Count Salvadori's *H. intermedius*, this specimen has head and back glossy black like *H. picatus*, but the distribution of the white color on the tail-feathers like *H. capitalis*, which characters are pointed out by Mr. Sharpe (Cat. Birds Br. Mus. III. p. 305) as the principal differences between both latter species.

Though the description of *H. intermedius* is given by such excellent an authority as Count Salvadori, I can hardly believe that the upper tail-coverts in that specimen are really white, while in all known other species of this genus, *H. obscurus* included, they are black. A mistake however might be possible if the said specimen was in bad condition, and the tolerably long white feathers of the rump had been considered to be the upper tail-coverts,

like undoubtedly Captain Legge (Birds of Ceylon, p. 375) did, as he says in his short diagnose of *H. obscurus*: »the upper tail-coverts white." It would really be a very peculiar fact, if in about the same locality two so closely allied species would be found.

Another specimen from the same locality, presented by Mr. van Hasselt in 1880 was already in our Museum. It differs from Dr. Klaesi's specimen only in having the four exterior pairs of tail-feathers tipped with white, instead of five.

Unless the questions about the identity of *H. picatus* with *H. capitalis* be settled, I consider both our specimens in question to belong to Count Salvadori's *H. intermedius*. It is however quite possible that all three so very closely allied forms with the white wing-markings once will turn out to belong to one and the same species, which will have to bear the name *Hemipus picatus*.

98. *Tephrodornis gularis.*

Lanius gularis, Raffl. t. c. p. 304.
Tephrodornis gularis, Blyth, J. A. S. B. XV. p. 304; — ? Salvad. Ucc. di Borneo, p. 156 (1874) (partim); — Sharpe, Cat. Birds Br. Mus. Vol. III. p. 278 (1877).

3 specimens (2 ad. ♂, 1 ♀).

Adult male: »Iris chrome-yellow, bill black, feet brown." Female: »Iris sulphur-yellow, bill horn-brown, feet gray."

As Mr. Sharpe (l. c.) has already pointed out, the Sumatran and Malaccan birds are specifically distinct from those from Java (*virgatus* Temm.) by their larger size, and by the grayish brown color being much darker and reaching up to the chin, leaving the moustaches pure white, and also by the tail-coverts and tail-feathers in adult specimens being edged with gray instead of being entirely black.

In our three specimens from Borneo, amongst which only one fully adult male, the bill is considerably larger and stouter than in those from Sumatra. In the adult

specimen the gray color on the back is darker, and tail-coverts and tail are entirely black like in Javan birds.

If the mentioned characters might prove to hold good in more material than I have at my disposal, I would propose to separate the Bornean specimens under the name of *T. frenatus*, under which name Temminck separated the mentioned three specimens from Borneo from those from Java and Sumatra as a new species, though this latter, as so many others, were never published.

The only Malaccan specimen in our Museum (from Perak, Dr. Hagen) is a female or young male, but with regard to the size of the bill it belongs to the Sumatran form.

99. *Lanius bentet.*

Lanius bentet, Horsf. t. c. p. 144; — Raffl. t. c. p. 304; — Salvad. Ucc. di Borneo, p. 158 (1874); id. Ucc. di Sumatra, p. 210 (1879); — Snelleman, Sum. Exp. Vogels, p. 43 (1884).

6 specimens.

»Iris chocolate brown, bill and feet black. Native name: *Siaras.*

100. *Lanius tigrinus.*

Lanius tigrinus, Drap. Dict. Class. Hist. Nat. XIII. p. 523 (1828); — Gadow, Cat. Birds Br. Mus. Vol. VIII. p. 289.

Lanius magnirostris, Less. Voy. Bélang., et Compl. Buff. II. p. 415 (1834); — Tweedd. Ibis 1867, p. 220, pl. 6, fig. 1 & 2; id. l. c. 1869, p. 242.

Enneoctonus crassirostris (Kuhl), Bp. Consp. Av. I. p. 362 (1850).

4 specimens (ad. ♂, and jun. both sexes).

»Iris?, bill black, bluish gray at base, feet gray. Native name *Siareh.*"

An examination of the specimens in our Museum shows that there is only one species of thick-billed rufous-tailed Shrikes, which we have represented by one specimen from Singapore, seven from Sumatra, five from Banka, one from Borneo (S. Müller) and five from Java (Kuhl, Blume, Junghuhn and others). A peculiarity of this species is that young (brown-headed) birds have no black stripe

from the base of bill through the eye, the lores being white. In a more advanced stage, in which the crown is already gray but the flanks are still showing the dark cross-bands, the black stripe through the eye has appeared, but is still interrupted by the white loral patch, which afterwards becomes smaller until it disappears entirely in the fully adult stage, in which the said black stripe is so much enlarged as to cover the whole front, the loral and ocular region and the ear-coverts, while the lower surface of the bird has become entirely white.

The specimen from Singapore is in fully adult, that from Borneo in immature stage, the other localities are represented by birds in different stage of plumage.

A revision of the other rufous-tailed Shrikes in the Leyden Museum shows that they belong to the following four species:

1. *Lanius bucephalus*, Schl. Faun. Jap. pl. 14.

8 specimens from Japan.

2. *Lanius cristatus*, L. S. N. I. p. 134 (1766). For further synonymy conf. Gadow, Cat. Birds Br. Mus. Vol. VIII. p. 271 (1883).

8 specimens (Bengal 2, India 2, Hindostan 1, Tenasserim 2, Pegu 1, Amur 2).

3. *Lanius superciliosus*, Lath. (see Gadow, l. c. p. 273).

8 specimens in different stage, all from Java.

It is not easy to keep the two last-named species distinct from each other in all the different stages of plumage, and even fully adult specimens are found with the broad white front of *superciliosus* and the ashy brown back and whitish lower surface of *cristatus*, while on the other hand a fully adult specimen, also from Java, has all the characters of the true *superciliosus*, except the white frontal and superciliary band which is as narrow as in the true *cristatus*. In consequence of this observation I yield to the opinion uttered by Capt. Legge in his Birds of Ceylon, p. 379, that *L. superciliosus* might be a rufous race of *L. cristatus*, if these intermediate forms are not the results

of interbreeding between the two species, as Dr. Gadow (l. c.) believes.

4. *Lanius lucionensis*, L. S. N. I. p. 135 (1766). For further references conf. Gadow, l. c. p. 274.

31 specimens (China 24, of which nearly all are collected by Mr. Swinhoe and Dr. G. Schlegel, Colombo 1, Andamans 2, Borneo 1, Luçon 1, Sanghir 1, Celebes 1).

A few remarks may be welcome to ornitologists about the much-disputed specimens from the latter localities.

The bird from Colombo (Ceylon) is undoubtedly a true and fully adult *L. lucionensis*. As it is one of Diard's specimens, there can be little doubt as to the trustworthiness of the mentioned locality. Of the Andaman specimens one is in fully adult, the other in immature plumage. The specimen from Borneo, collected by Schwaner and called *Enneoctenus Schwaneri* by Bonaparte (Consp. Av. I. p. 363) is a true *L. lucionensis*. The white superciliary streak is by no means absent, as Bonaparte says in his short diagnosis, but merely hidden by the somewhat overhanging feathers of the crown. The specimen from Luçon is a true *L. lucionensis* with ashy gray forehead and crown, but having the lower surface still banded across like young specimens, thus showing the fully adult stage of plumage on the upper, the immature stage on the lower surface. The same is the case in one of our specimens from China. The specimen from Menado (Celebes), collected by Duyvenbode, is a true *L. lucionensis* in nearly adult stage of plumage, with the forehead and fore-part of crown strongly tinged with ashy gray and the lower surface still, though faintly, crossed with dark zigzag bars. I have little doubt that the specimen from the same locality in the Dresden Museum (Blasius, J. f. O. 1883, p. 148) will belong to this species and not to *tigrinus* (*magnirostris*) which latter species is easily recognized by the black-barred back in all stages of plumage. The Sanghir specimen, which was collected by Hoedt, differs from the other specimens of *lucionensis* by the entire forehead and crown being tinged with smoky brown instead of gray,

and therefore stands very near *cristatus*. At it is, according to the cross-bands on the lower surface, an immature bird, the gray color of the forehead may have not been assumed.

101. *Aethopyga siparaja.*

Certhia siparaja, Raffl. t. c. p. 299.
Nectarinea mystacalis (part.), Müll. & Schl. Verh. Zool. Aves, p. 54.
Aethopyga siparaja, Cab.; — Tweedd. Ibis 1877, p. 301; — Salvad. Ucc. di Sumatra, p. 212 (1879); — Shelley, Mon. Nect. p. 57, pl. 19 (1878); — Nicholson, Ibis 1883, p. 252.

3 specimens (1 ♂, 2 ♀♀), Padang.
»Iris dark brown, bill and feet black. Native name: *Boerong koembang.*"

102. *Chalcostetha insignis.*

Nectarinea pectoralis, Temm. (nec Horsf.) P. C. IV. 138, f. 3 (1823); — Müll. & Schl. Verh. Zool. Aves, p. 57, pl. 9, fig. 2.
Nectarinea insignis, Jard. Nat. Lib. XXXVI. p. 274 (1842), ex Temm. P. C. IV. 138.
Chalcostetha insignis, Tweedd. Ibis 1877, p. 302; — Shelley, Mon. Nect. p. 87, pl. 30 (1877).

3 specimens (♂♂), Padang, on Cocoanut-palms.
»Iris dark brown, bill and feet black. Native name: *Boerong koembang.*"

103. *Cinnyris Hasselti.*

Certhia sperata, Raffl. t. c. p. 298 (nec L.).
Nectarinea Hasseltii, Temm. P. C. IV. pl. 376, f. 3 (1825); — Müll. & Schl. Verh. Zool. Aves, p. 59, pl. 10, f. 5.
Nectarophila Hasselti, Tweedd. Ibis 1877, p. 302.
Cinnyris Hasselti, Less.; — Shelley, Mon. Nect. p. 127, pl. 42 (1877); — Nicholson, Ibis 1883, p. 252.

1 specimen (♂), Padang.

104. *Arachnothera robusta.*

Arachnothera robusta, Müll. & Schl. Verh. Nat. Gesch. p. 68, pl. 11, fig. 1 (1846); — Salvad. Ucc. di Borneo, p. 184 (1874); — Gadow, Cat. Birds Br. Mus. Vol. IX. p. 101 (partim) (1884).
Arachnothera sp.? Blyth, J. A. S. B. XV. p. 43 (1846) (Java).

Arachnoraphis robusta (partim), Shelley, Mon. Nectar. p. 367, pl. 118 (1878).

2 specimens (ad. ♂ and ♀).

»Iris brown, bill and feet dark brownish black."

I cannot agree with Capt. Shelley and Dr. Gadow who consider *A. armata* Müll. & Schl. (Verh. Nat. Gesch. p. 68, pl. 11, fig. 2) to be identical with the present species. All three typical specimens of *A. armata* differ from *robusta* by the decidedly grayish olive chin, throat and chest, which parts in *robusta* are olive green and strongly tinged with yellow. The bill in *armata* is much shorter than that of *robusta*, measuring in a straight line from front to tip only 47 mm., while in *robusta* it is in all the five specimens before me 53—55 mm. The difference in the length of the wing is not very remarkable, the wing of the three males in *A. armata* measuring 85, that of the three males in *A. robusta* 88—90 mm. The two females of the latter species have the wings considerably shorter, as they are scarcely as long as in the male of *armata*.

The specimens from which Capt. Shelley described his *A. robusta*, as well as that from the Turin Museum which is figured on the accompanying plate, are all true *A. robusta*, and I think that if this excellent observer had really had before him a true *armata*, this latter would certainly stand in his Monograph as a distinct species. There must be added that the yellowish tinge on throat and chest in *A. armata* Müll. & Schl. (pl. 11, fig. 2) is decidedly incorrect and ought to be represented by a grayish olive color. This incorrect representation is certainly for a great deal the reason that the species is not acknowledged by Capt. Shelley.

Besides the typical specimen of *A. robusta*, the Museum Collection contained a specimen (♀) from Sarawak (Borneo), presented by Mr. Sharpe, and another from Western Sumatra, presented by Mr. von Faber.

105. *Arachnothera modesta.*

Anthreptes modesta, Eyton, P. Z. S. 1839, p. 105.

Arachnothera modesta, Blyth, J. A. S. B. XII. p. 981 (1843); — Sal-

vad. Ucc. di Borneo, p. 183 (1874); id. Ucc. di Sumatra, p. 214 (1879); — Shelley, Mon. Nect. p. 353, pl. 113 (1878); — Nicholson, Ibis 1883, p. 253.

Arachnothera affinis, Gadow, Cat. Birds Br. Mus. Vol. IX. p. 106 (1884) (part.); — Snelleman, Sum. Exp. Vogels, p. 41 (1884).

Arachnothera concolor (n. sp.), Schl. (Pl. 1 to Snelleman's text of *A. affinis*)

6 specimens.

»Iris brown, bill blackish, lower mandible paler, feet pale flesh-color. Native name: *Pidantong.*"

Dr. Gadow is certainly wrong in uniting this species with the closely allied *A. affinis*. I have before me 10 specimens of *A. modesta*, one of which is from Singapore, the others from Western Sumatra, against 16 specimens of *A. affinis*, all of which are from Java. All the specimens of *A. modesta* are easily distinguished by the strongly pronounced greenish tinge on the lower surface, while these parts in *A. affinis* are gray with very little or no greenish tinge. In both species throat and chest have olivaceous shaft-stripes, which latter are more developed in *A. affinis* than they are in *A. modesta*. The difference in size is not constant, as I have before me specimens of *A. modesta* from Sumatra, which are fully as large as *A. affinis* from Java.

106. *Arachnothera chrysogenys.*

Certhia longirostra, Raffl. t. c. p. 299.

Arachnothera chrysogenys, Temm. P. C. IV. 388, fig. 1 (1826); — Müll. Verh. Land- en Volkenk. p. 405 (1843); — Müll. & Schl. Verh. Zool. Aves, p. 69 (1846); — Salvad. Ucc. di Borneo, p. 181 (1874); id. Ucc. di Sumatra, p. 214 (1879); — Tweedd. Ibis 1877, p. 301; — Shelley, Mon. Nect. p. 365, pl. 117 (1879); — Gadow, Cat. Birds Br. Mus. IX. p. 108 (1884).

1 specimen (♀).

»Iris chestnut brown, bill black, lower mandible at base pale horny, feet horny gray. Native name: *Pidjantong.*"

107. *Arachnothera flavigaster.*

Anthreptes flavigaster, Eyton, P. Z. S. 1839, p. 105.

Arachnothera flavigastra, Blyth, J. A. S. B. XIV. p. 557 (1845); — Tweedd. Ibis 1877, p. 300.

Arachnothera Eytonii, Salvad. Ucc. di Borneo, p. 182 (1874).
Arachnoraphis flavigastra, Shelley, Mon. Nect. p. 373, pl. 120 (1879).
Arachnothera flaviventris, Gadow, Cat. Birds Br. Mus. Vol. IX. p. 109 (1884).

4 specimens.

»Iris Van Dijk-brown, bill dark brown, underneath paler, feet dirty orange. Native name: *Pidjantong*."

108. *Aegithina viridis.*

Turdus scapularis, Raffl. t. c. p. 311 (nec Horsf.).
Jora viridis, Bp. Consp. Av. I. p. 397 (1850); — Snelleman, Sum. Exp. Vogels, p. 40 (1884).
Jora scapularis, Salvad. Ucc. di Borneo, p. 190 (1874).
Aegithina scapularis, Tweedd. Ibis 1877, p. 304; — Salvad. Ucc. di Sumatra, p. 216 (1879).
Aegithina viridis, Sharpe, Cat. Birds Br. Mus. Vol. VI. p. 11 (1881).

1 specimen (♀).

»Iris pale ochre, ridge of bill black, edges, lower mandible and feet cobalt. Native name: ?"

109. *Choropsis zosterops.*

Chloropsis zosterops, Vig. App. Mem. Raffl. p. 674; — Sharpe, Cat. Birds Br. Mus. Vol. VI. p. 24 (1881); — Nicholson, Ibis 1882, p. 59.
Phyllornis viridis, Tweedd. Ibis 1877, p. 305.
Phyllornis sonnerati, Salvad. Ucc. di Sumatra, p. 217 (1879).

7 specimens.

»Iris dark brown, bill and feet leaden black. Native name: *Timai-tinggih*."

110. *Chloropsis media.*

Phyllornis media, Bp. Consp. Av. I. p. 396 (ex Müll. M S.); — Ramsay, P. Z. S. 1880, p. 14.
Chloropsis media, Sharpe, Cat. Birds Br. Mus. Vol. VI. p. 27 (1881).

12 specimens.

»Iris dark brown, bill and feet dark leaden gray. Native name: *Djulu Djulu daun*."

111. *Chloropsis icterocephala.*

Turdus cochinchinensis, Raffl. (nec Gm.) t. c. p. 309.
Phyllornis malabaricus, Temm. (nec Gm.) P. C. IV. 512, fig. 2.
Phyllornis icterocephala, Lesson, Rev. Zool. 1840, p. 164; — Tweedd. Ibis 1877, p. 305.
Chloropsis icterocephala, Sharpe, Cat. Birds Br. Mus. Vol. VI. p. 30 (1881); — Nicholson, Ibis 1882, p. 59.

4 specimens.

Iris, bill and feet like in the preceding species.

112. *Chloropsis cyanopogon.*

Phyllornis cyanopogon, Temm. P. C. IV. 512, fig. 1; — Tweedd. Ibis 1877, p. 305; — Salvad. Ucc. di Sumatra, p. 217 (1879).
Chloropsis cyanopogon, Sharpe, Cat. Birds Br. Mus. Vol. VI. p. 32 (1881); — Nicholson, Ibis 1883, p. 247; — Snelleman, Sum. Exp. Vogels, p. 40 (1884).

2 specimens.

Iris, bill and feet like in the preceding species.

113. *Chloropsis venusta.*

Phyllornis venusta, Bp. Consp. Av. I. p. 396 (1850).
Chloropsis venusta, Sharpe, Cat. Birds Br. Mus. Vol. VI. p. 34 (1881).

2 specimens (♂ ♂).

»Iris black, bill black, feet leaden gray. Native name: *Burong bindalo.*"

One of the specimens of this fine species has been collected at Loeboe Soelasi, on the 10th of November, the other at Soerian, on the 23rd of the same month. This species was hitherto only known from the three typical specimens in the Leyden Museum.

114. *Trachycomus ochrocephalus.*

Turdus ochrocephalus, Gm. S. N. I. p. 821; — Temm. P. C. II. 136.
Trachycomus ochrocephalus, Cab. Mus. Hein. I. p. 109; — Salvad. Ucc. di Borneo, p. 196 (1874); id. Ucc. di Sumatra, p. 218 (1879); — Sharpe, Cat. Birds Br. Mus. Vol. VI. p. 93 (1881).
Alcurus ochrocephalus, Tweedd. Ibis 1877, p. 306.
Ixos ochrocephalus, Snelleman, Sum. Exp. Vogels, p. 40 (1884).

21 specimens.

»Iris rusty brown, bill black, feet leaden gray. Native name: *Baro, baro.*"

115. *Pycnonotus bimaculatus.*

Turdus bimaculatus, Horsf. t. c. p. 147.
Ixus bimaculatus, Salvad. Ucc. di Sumatra, p. 218 (1879).
Pycnonotus bimaculatus, Sharpe, Cat. Birds Br. Mus. Vol. VI. p. 138 (1881); — Nicholson, Ibis 1883, p. 247.

1 specimen (ad. ♀).

»Iris dark brown, bill and feet leaden black. Native name: *Braba rimbo.*"

116. *Pycnonotus analis.*

Turdus analis, Horsf. t. c. p. 147; — Raffl. t. c. p. 310.
Pycnonotus analis et *P. gourdinii*, Salvad. Ucc. di Borneo, pp. 197, 198 (1874).
Ixus analis, Tweedd. Ibis 1877, p. 306; — Salvad. Ucc. di Sumatra, p. 219 (1879).
Pycnonotus analis, Sharpe, Cat. Birds Br. Mus. Vol. VI. p. 140 (1881).
Ixos psidii, Snelleman, Sum. Exp. Vogels, p. 40 (1884).

6 specimens.

»Iris Van Dijk-brown, bill and feet blackish. Native name: *Braba.*"

117. *Pycnonotus plumosus.*

Pycnonotus plumosus, Blyth, J. A. S. B. XIV. p. 567; — Salvad. Ucc. di Borneo, p. 198 (1874); — Sharpe, Cat. Birds Br. Mus. Vol. VI. p. 152 (1881); — Nicholson, Ibis 1883, p. 247.
Brachypus plumosus, Tweedd. Ibis 1877, p. 306; — Salvad. Ucc. di Sumatra, p. 220 (1879).

5 specimens.

»Iris orange, bill black, feet yellowish brown. Native name: *Braba rimbo.*"

118. *Pycnonotus simplex.*

Pycnonotus simplex, Less. Rev. Zool. 1839, p. 167; — Sharpe, Cat. B. Br. Mus. VI. p. 153, pl. IX (1881); — Nicholson, Ibis 1882, p. 60.

1 specimen.

No colors of the soft parts mentioned.

119. *Rubigula dispar.*

Turdus dispar, Horsf. t. c. p. 150; — Raffl. t. c. p. 310; — Temm. P. C. II. 137.

Rubigula dispar, Blyth, J. A. S. B. XIV. p. 576; — Tweedd. Ibis 1877, p. 306; — Salvad. Ucc. di Sumatra, p. 220 (1879); — Sharpe, Cat. Birds Br. Mus. Vol. VI. p. 167 (1881).

7 specimens.

»Iris fire-red, bill black, feet dark brown. Native name: *Braba rimbo.*"

120. *Rubigula cyaniventris.*

Turdus sp. 6, Raffl. t. c. p. 311.

Ixidia cyaniventris, Salvad. Ucc. di Sumatra, p. 220 (1879).

Rubigula cyaniventris, Sharpe, Cat. B. Br. Mus. Vol. VI. p. 169 (1881).

2 specimens (♂ ♂).

»Iris chocolate, bill black, feet dirty brown. Native name: *Kamadja.*"

121. *Rubigula Webberi.*

Ixidia squamata, Salvad. (nec Temm.) Ucc. di Borneo, p. 200 (1874).

Ixidia Webberi, Hume, Stray Feath. 1879, pp. 40, 63.

Rubigula Webberi, Sharpe, Cat. Birds Br. Mus. Vol. VI. p. 171. (Sumatra).

1 specimen (♀).

»Iris fire-red, bill and feet black.

Another specimen of this species, also from Western Sumatra, was presented to our Museum by Mr. von Faber in 1880.

122. *Micropus melanocephalus.*

Lanius melanocephalus, Gm. S. N. I. p. 309.

Turdus melanocephalus, Raffl. t. c. p. 310.

Turdus atriceps, Temm. P. C. II. 147.

Brachypodius melanocephalus, Salvad. Ucc. di Borneo, p. 201 (1874);

— Tweedd. Ibis 1877, p. 307; — Salvad. Ucc. di Sumatra, p. 221 (1879).

Micropus melanocephalus, Sharpe, Cat. B. Br. Mus. VI. p. 65 (1881).

7 specimens.

»Iris cobalt-blue to sky-blue, bill and feet blackish. Native name: *Kamadja.*"

123. *Micropus melanoleucus.*

Microtarsus melanoleucus, Eyton, P. Z. S. 1839, p. 102; — Salvad. Ucc. di Borneo, p. 202 (1874).

Micropus melanoleucus, Sharpe, Cat. B. Br. Mus. Vol. VI. p. 69 (1881).

1 specimen (n°. 775).

»Iris chocolate, bill and feet black."

124. *Hemixus cinereus.*

Iole cinerea, Blyth, J. A. S. B. XIV. p. 573 (1845).

Hemixus cinereus, Sharpe, Cat. Birds Br. Mus. Vol. VI. p. 52 (1881) (Sumatra).

2 specimens.

»Iris?, bill and feet black."

125. *Hemixus malaccensis.*

Hypsipetes malaccensis, Blyth, J. A. S. B. XIV. p. 574 (1845); — Salvad. Ucc. di Borneo, p. 202 (1874); id. Ucc. di Sumatra, p. 221 (1879).

Hemixus malaccensis, Sharpe, Cat. Birds Br. Mus. Vol. VI. p. 52 (1881).

5 specimens.

»Iris brown, bill brown, lower mandible paler, feet brownish yellow. Native name: *Braba kampong.*"

126. *Tricholestes criniger.*

Brachypodius? criniger, Blyth, J. A. S. B. XIV. p. 577 (1845).

Tricholestes minutus, Salvad. Ucc. di Borneo, p. 205 (1874).

Tricholestes criniger, Tweedd. Ibis 1877, p. 306; — Sharpe, Cat. B. Br. Mus. Vol. VI. p. 89 (1881).

1 specimen.

Color of soft parts not mentioned.

127. *Criniger gutturalis.*

Trichophorus gutturalis, Bp. Consp. Av. I. p. 262 (1850).
Criniger gutturalis, Salvad. Ucc. di Borneo, p. 206 (1874); — Sharpe, Cat. Birds Br. Mus. Vol. VI. p. 80 (1881); — Nicholson, Ibis 1883, p. 247.

7 specimens.

»Iris brown, bill leaden gray, feet pale brown. Native name: *Braba rimbo.*"

128. *Iole olivacea.*

Iole olivacea, Blyth, J. A. S. B. XIII. p. 386 (1844); — Salvad. Ucc. di Borneo, p. 210 (1874); — Tweedd. Ibis 1877, p. 307; — Sharpe, Cat. Birds Br. Mus. Vol. VI. p. 55 (1881); — Nicholson, Ibis 1882, p. 59; id. Ibis 1883, p. 247.

2 specimens (♂ and ♀).

»Iris pale roe-brown, bill blackish, lower mandible yellowish at base, feet dirty yellow. Native name: *Braba.*"

129. *Pitta coerulea.*

Myiothera coerulea, Raffl. t. c. p. 301.
Pitta gigas, Temm. P. C. II. 217.
Pitta coerulea, Vig. App. Mem. Raffl. p. 659; — Schl. Vog. Ned. Ind. Pitta, p. 1, pl. 1, f. 1, 2, 3 (1863); id. Mus. P.-B., Pitta, p. 1 (1863); id. Pitta, Revue, p. 1 (1874).

1 specimen (♀).

»Iris dark brown, bill brownish black, feet brown. Native name: *Sintau.*"

130. *Pitta cyanoptera.*

Pitta cyanoptera, Temm. P. C. II. 218; — Müll. & Schl. Verh. Zool. Aves, pp. 7, 17, 20; — Schl. Mus. P.-B., Pitta, p. 9 (1863); id. Pitta, Revue, p. 15 (1874); — Salvad. Ucc. di Borneo, p. 235 (1874).

1 specimen (ad. ♀).

Soft parts and native name not mentioned.

131. *Pitta cucullata.*

Pitta cucullata, Hartl. Ann. N. H. 1844, pl. 20; — Schl. Mus. P.-B. Pitta, p. 4 (1863); id. Pitta, Revue, p. 5 (1874).

Pitta bangkana, Schl. Vog. Ned. Ind. Pitta, p. 8, pl. 2, f. 5 (1863); id. Mus. P.-B., Pitta, p. 3 (1863).

2 specimens.

»Iris Van Dijk-brown, bill black, feet flesh-color. Native name: *Si Pindjur*."

As far as I know this is the first time that this species is recorded from Sumatra.

132. *Myiophoneus flavirostris.*

Turdus flavirostris, Horsf. t. c. p. 149.
Myiophoneus metallicus, Temm. P. C. II. 170 (1823).
Myiophoneus flavirostris, Gray, Gen. Birds, I.p. 214 (1846); — Sharpe, Cat. Birds Br. Mus. Vol. VII. p. 7 (1883).
Myiophoneus dicrorhynchus, Salvad. Ucc. di Sumatra, p. 227 (1879); — Ramsay, P. Z. S. 1880, p. 16; — Nicholson, Ibis 1883, p. 247; — Sharpe, Cat. Birds Br. Mus. Vol. VII. p. 10 (1883).

2 specimens (1 nearly adult, unsexed, 1 jun. ♀).

»Iris dark brown, bill in the unsexed specimen orange-yellow, ridge black, in the younger female entirely black, feet in both specimens black. Native name: *Tiong ajer*."

Count Salvadori (l. c.) considers the Sumatran specimens to be distinct from the Javan by the culminal part of the bill being black instead of yellow, and this opinion is shared by Mr. Sharpe, Mr. Ramsay and Mr. Nicholson in their above mentioned publications. If this character would really be sufficient to base a new species upon, the above mentioned unsexed specimen would belong to *M. dicrorhynchus* and not to *flavirostris*. I can however not agree with the learned author, as amongst the three Javan specimens in the Leyden Museum, one of which is figured in the Pl. Col. 170, have all the culmen more or less black, though not as largely as the Sumatran specimen. This latter has moreover the purplish white tips to the median wing-coverts as strongly developed as is the case with the specimens from Java. Only the metallic edgings to the feathers are less strongly pronounced, which peculiarity might be attributed to its not fully adult stage of plumage.

The second specimen, a female with entirely black bill (like in young black Thrushes only the edges and inner surface of the mandibles are yellow) is, on account of this character, certainly a young bird. The point of the bill is not as strongly bent downward as in adult specimens, the tail is decidedly shorter (probably not fully developed), measuring only 8,5 cm. instead of 11, while wings and tarsi are as long as in adult specimens. The purplish white tips to the median wing-coverts, as well as the metallic edgings to the feathers on upper and lower surface, are entirely wanting, but the lower wing-coverts show the same peculiar white patch as the adult, both from Java and Sumatra.

133. *Myiophoneus melanurus.*

Arrenga melanura, Salvad. Ucc. di Sumatra, p. 227 (1879); — Ramsay, P. Z. S. 1880, p. 16; — Nicholson, Ibis 1882, p. 60; id. Ibis 1883, p. 247.

Myiophoneus melanurus, Sharpe, Cat. Birds Br. Mus. Vol. VII. p. 12 (1883).

3 specimens (2 ♂, 1 ♀).

»Iris chocolate-brown, bill black, feet dark brown. Native name: *Tiong ajer.*"

134. *Myiophoneus castaneus.*

Myiophoneus castaneus, Ramsay, P. Z. S. 1880, p. 16, pl. 1; — Sharpe, Cat. Birds Br. Mus. Vol. VII. p. 14 (1883).

2 specimens (♂ and ♀).

»Iris chocolate-brown, bill and feet black. Native name: *Tiong ajer.*"

135. *Turdinus loricatus.*

Myiothera loricata, S. Müll. Tijdschr. Nat. Gesch. en Phys. 1835, p. 348.

Turdinus marmoratus, Ramsay, P. Z. S. 1880, p. 15.

Turdinus loricatus, Sharpe, Cat. Birds Br. Mus. Vol. VII. p. 550 (1883).

3 specimens.

»Iris brown, bill and feet black. Native name: *Si Pindjur.*"

136. *Platylophus coronatus.*

Lanius coronatus, Raffl. t. c. p. 306.
Garrulus histrionicus, Schl. Handl. Dierk. I. p. 327 (1857).
Garrulus rufulus, Schl. Handl. Dierk. I. p. 327 (1857); id. Mus. P.-B. Coraces, p. 66 (1867).
Platylophus coronatus, Cab. J. f. O. 1866, p. 309; — Salvad. Ucc. di Borneo, p. 280 (1874); id. Ucc. di Sumatra, p. 229; — Nicholson, Ibis 1882, p. 59.

7 specimens.

»Iris Van Dijk-brown, bill and feet lead-color. Native name: *Burong kudok.*"

137. *Garrulax bicolor.*

Garrulax bicolor, Hartl. Rev. Zool. 1844, p. 402; — Bonap. Consp. Av. I. p. 370 (1850); — Salvad. Ucc. di Sumatra, p. 229 (1879); — Nicholson, Ibis 1883, p. 249; — Sharpe, Cat. B. Br. Mus. Vol. VII. p. 438 (1883); — Snelleman, Sum. Exp. Vogels, p. 43 (1884).

6 specimens.

»Iris blood-red, bill and feet brownish black. Native name: *Baligoh.*"

138. *Garrulax palliatus.*

Janthocincla palliata, Bp. Consp. Av. I. p. 371 (1850).
Garrulax palliatus, Gray, Handl. Birds, I. p. 282 (1869); — Salvad. Ucc. di Sumatra, p. 230 (1879); — Nicholson, Ibis 1882, p. 61; — Sharpe, Cat. Birds Br. Mus. Vol. VII. p. 446 (1883).

2 specimens.

»Iris orange-yellow, bill and feet black. Native name: *Girgudei itam.*"

139. *Melanocichla lugubris.*

Janthocincla lugubris, S. Müll. Nat. Tijdschr. 1835, p. 344, pl. 5, f. 2.
Garrulax lugubris, Gray, Handl. Birds, I. p. 281 (1869); — Nicholson, Ibis 1883, p. 249; — Snelleman, Sum. Exp. Vogels, p. 43 (1884).
Melanocichla lugubris, Sharpe, Cat. Birds Br. Mus. Vol. VII. p. 451 (1883).

5 specimens.

»Iris dark brown, bill orange-red, feet yellowish green. Native name: *Gudei binnang.*"

140. *Rhinocichla mitrata.*

Timalia mitrata, S. Müll. Nat. Tijdschr. 1835, p. 345, pl. 5, f. 3.
Janthocincla mitrata, Bp. Consp. Av. I. p. 371 (1850); — Nicholson, Ibis 1882, p. 61; id. Ibis 1883, p. 248.
Leiotrix mitrata, Salvad. Ucc. di Sumatra, p. 230 (1879).
Rhinocichla mitrata, Sharpe, Cat. B. Br. Mus. Vol. VII. p. 452 (1883).

13 specimens.

»Iris red, bill and feet orange. Native name: *Girgudei.*"

141. *Mixornis gularis.*

Motacilla gularis, Raffl. t. c. p. 312.
Mixornis gularis, Blyth, Cat. Birds Mus. A. S. p. 149 (1849); — Salvad. Ucc. di Sumatra, p. 223 (1879); — Sharpe, Cat. Birds Br. Mus. Vol. VII. p. 576 (1883).

1 specimen (♂).

»Iris dark brown, bill black, feet dark brown."

142. *Eupetes macrocercus.*

Eupetes macrocercus, Temm. P. C. II. 516 (1831); — Salvad. Ucc. di Sumatra, p. 233 (1879); — Sharpe, Cat. Birds Br. Mus. Vol. VII. p. 338 (1883).

1 specimen (♂).

»Iris dark brown, bill and feet black. Native name: *Si Pindjur.*"

143. *Henicurus frontalis.*

Enicurus frontalis, Blyth, J. A. S. Beng. XVI. p. 156 (1847).
Henicurus frontalis, Salvad. Ucc. di Borneo, p. 258 (1874); — Tweedd. Ibis 1877, p. 310; — Sharpe, Cat. Birds Br. Mus. Vol. VII. p. 321 (1883).

2 specimens.

»Iris dark brown, bill black, feet yellowish white. Native name: *Murei batu.*"

144. *Henicurus velatus.*

Enicurus velatus, Temm. P. C. III. 160 (1823).
Henicurus velatus, Elwes, Ibis 1872, p. 253; — Salvad. Ucc. di Sumatra, p. 234 (1879); — Nicholson, Ibis 1883, p. 251; — Snelleman, Sum. Exp. Vogels, p. 40 (1884).
Hydrocichla velatus, Sharpe, Cat. Birds Br. Mus. Vol. VII. p. 320 (1883).

1 specimen (♂).

»Iris dark brown, bill black, feet white. Native name: *Murei ajer.*"

145. *Cittocincla tricolor.*

Turdus tricolor, Vieill. N. Dict. d'Hist. Nat. XX. pl. 114 (1802).
Cittocincla macroura (Gm.), Tweedd. Ibis 1877, p. 309; — Salvad. Ucc. di Sumatra, p. 236 (1879); — Nicholson, Ibis 1882, p. 60.
Cittocincla tricolor, Sharpe, Cat. Birds Br. Mus. Vol. VII. p. 85 (1883).

5 specimens.

»Iris dark brown, bill black, feet reddish white. Native name: *Murei rotan.*"

146. *Copsychus musicus.*

Lanius musicus, Raffl. t. c. p. 307.
Copsychus musicus, Tweedd. Ibis 1877, p. 302; — Salvad. Ucc. di Sumatra, p. 236 (1879); — Nicholson, Ibis 1882, p. 60.
Copsychus saularis (part.) Sharpe, Cat. B. Br. Mus. Vol. VII. p. 61 (1883).
Copsychus mindanensis, Snelleman, Sum. Exp. Vogels, p. 40 (1884).

6 specimens (5 ♂, 1 ♀).

»Iris dark brown, bill and feet black. Native name: *Murei.*"

147. *Turdus obscurus.*

Turdus obscurus, Gm. S. N. I. p. 816 (1788); — Ramsay, P. Z. S. 1880, p. 15.
Turdus pallens, Pall. Zoogr. Ross. As. I. p. 457 (1811—1831); — Temm. & Schl. Faun. Jap. Aves, p. 63, pl. 27 (1850); — Salvad. Ucc. di Borneo, p. 257 (1874).
Merula obscura, Sharpe, Cat. Birds Br. Mus. Vol. V. p. 273 (1881).

1 specimen (♀).

»Iris chocolate, bill dark brown, base of lower mandible yellowish, feet brownish yellow."

148. *Geocichla sibirica.*

Turdus sibiricus, Pall. Reis. Russ. Reich. III. p. 694 (1776); — Temm. & Schl. Faun. Jap. Aves, p. 66, pl. 31 (1847); — Ramsay, P. Z. S. 1880, p. 15.
Geocichla sibirica, Sharpe, Cat. Birds Br. Mus. Vol. V. p. 180 (1881).

4 specimens.

»Iris brown, bill dark brown, feet brownish yellow."

149. *Motacilla melanope.*

Motacilla melanope, Pall. Reis. Russ. Reich. III. p. 696 (1776); — Sharpe, Cat. Birds Br. Mus. Vol. X. p. 497 (1885).
Motacilla bistrigata, Raffl. t. c. p. 312.
Calobates bistrigata, Salvad. Ucc. di Borneo, p. 259 (1874).
Calobates melanope, Tweedd. Ibis 1877, p. 310; — Nicholson, Ibis 1882, p. 62; id. Ibis 1883, p. 253.

2 specimens.

»Iris Van Dijk-brown, bill black, feet brownish yellow. Native name: *Murei batu.*"

150. *Limonidromus indicus.*

Motacilla indica, Gm. S. N. I. p. 362 (1788).
Motacilla variegata, Vieill. N. Dict. d'Hist. Nat. XIV. p. 599 (1817).
Limonidromus indicus, Gould, Birds Asia, pl. 67 (1862); — Salvad. Ucc. di Borneo, p. 261 (1874); — Ramsay, P. Z. S. 1880, p. 15.

2 specimens.

»Iris brown, bill black, lower mandible dirty whitish, tarsi pale ochre, toes brown. Native name: *Pinti pinti.*"

151. *Anthus rufulus.*

Anthus rufulus, Vieill. N. Dict. d'Hist. Nat. XXVI. p. 494 (1818). For further references about the much entangled synonymy, see Sharpe, Cat. Birds Br. Mus. Vol. X. p. 574 (1885).

1 specimen.

152. *Munia punctularia* (?).

2 damaged specimens, probably young, in spirits. Padang.

153. *Calornis chalybaea.*

Turdus chalybaeus, Horsf. t. c. p. 148 (♂).
Turdus strigatus, Horsf. ibid. (♀).
Lamprotornis cantor, Temm. (nec Gm.) P. C. II. 149 f. 1 & 2 (1823); — Müll. Verh. Land- en Volkenk. p. 174 (1839—1844).
Calornis chalybaea, Salvad. Ucc. di Borneo, p. 271 (1874); — Tweedd. Ibis 1877, p. 318; — Salvad. Ucc. di Sumatra, p. 238 (1879); — Nicholson, Ibis 1882, p. 62.
Aplonis cantor (Temm.), Snelleman, Sum. Exp. Vogels, p. 43 (1884).

8 specimens.

»Iris blood-red, bill and feet black. Native name: *Burong kumbang.*"

154. *Gracula javanensis.*

Corvus javanensis, Osbeck, Iter. p. 102 (1757).
Gracula religiosa, Raffl. (nec L.) t. c. p. 303.
Gracula javanensis, Blyth, J. A. S. Beng. XV. p. 31 (1846); — Schl. Tijdschr. Dierk. I. p. 5, pl. 1, f. 3 (1863); — Salvad. Ucc. di Borneo, p. 274 (1874); — Tweedd. Ibis 1877, p. 319; — Salvad. Ucc. di Sumatra, p. 235 (1879); — Nicholson, Ibis 1882, p. 63; id. Ibis 1883, p. 255; — Snelleman, Sum. Exp. Vogels, p. 43 (1884).

13 specimens.

»Iris Van Dijk-brown, bill orange-red, bare skin lemon-yellow, feet lemon. Native name: *Beo.*"

155. *Oriolus indicus.*

Oriolus indicus, Briss. Orn. II. p. 328 (1760); — Schl. Mus. P.-B., Coraces, p. 102 (part.) (1867); — Salvad. Ucc. di Borneo, p. 275 (1874).
Oriolus chinensis, Raffl. (nec L.) t. c. p. 303.
Oriolus coronatus, Tweedd. Ibis 1877, p. 308; — Salvad. Ucc. di Sumatra, p. 238 (1879).
Oriolus diffusus, Sharpe, Cat. Birds Br. Mus. Vol. III. p. 197 (1877).
Oriolus tenuirostris, Sharpe, t. c. p. 198.
Oriolus maculatus, Sharpe, t. c. p. 199; — Snelleman, Sum. Exp. Vogels, p. 42 (1884).

18 specimens.

»Iris blood-red, bill flesh-color, feet brownish black. Native name: *Mentialo.*"

The black nuchal band in this species having really a somewhat bluish tinge under certain lights, perhaps relieved by the surrounding yellow color, I do not hesitate to adopt the name given by Brisson, but rejected by Mr. Sharpe and others.

156. *Oriolus xanthonotus.*

Oriolus xanthonotus, Horsf. t. c. p. 153; — Temm. P. C. II. 214 (1823); — Schl. Mus. P.-B., Coraces, p. 109 (1867); — Salvad. Ucc. di Borneo, p. 277 (1874); — Tweedd. Ibis 1877, p. 308; — Salvad. Ucc. di Sumatra, p. 239 (1879).

7 specimens.

»Iris blood-red, bill yellowish brown, feet cobalt.

157. *Oriolus cruentus.*

Leptopteryx cruenta, Wagl. Syst. Av. *addit. Leptopteryx* sp. 9.
Ocypterus sanguinolentus, Temm. P. C. III. 499 (1830).
Analcipus cruentus, Salvad. Ucc. di Borneo, p. 278 (1874); — Ramsay, P. Z. S. 1880, p. 15.
Oriolus cruentus, Sharpe, Cat. Birds Br. Mus. Vol. III. p. 221 (1877).

5 specimens.

»Iris brown, bill?, feet blackish gray."

This species stands in our Museum under the MS. name: *Artamia sanguinolenta.*

158. *Cissa chinensis.*

Coracias chinensis, Bodd. Tabl. Pl. enl. p. 38.
Cissa sinensis, Blyth, J. A. S. B. XIII. p. 934; — Schl. Mus. P.-B. Coraces, p. 68 (1867).
Cissa minor, Cab. Mus. Hein. I. p. 86, nota (1850—1851); — Sharpe, Cat. Birds Br. Mus. Vol. III. p. 86 (1877); — Salvad. Ucc. di Sumatra, p. 229 (1879); — Nicholson, Ibis 1883, p. 244.

7 specimens.

»Iris carmine, round the eye a narrow ring of blood-red, bill blood-red, feet raisin-red. Native name: *Lajongan.*"

With the exception of the size, there is absolutely no difference between Continental and Sumatran specimens, and the inferior size of the latter seems to me not striking enough to base a new species upon. The following are the measurements of the specimens at present at my disposal:

		wing	tail	tarsi
Himalayas	(2 sp.)	13,7—15 cm.	20,5—22,5	4,3
Sumatra	(9 sp.)	12,5—13,5 »	15,5—17,5	3,6—3,9

Mr. Nicholson (l. c.) says that »the female will probably turn out to be much smaller than the male." This however will hardly prove to be the truth, as a female specimen, collected by S. Müller is the largest of the series (wing 13,5 cm.) and another female, from Dr. Klaesi's collection, the next in size. Another female of Dr. Klaesi's on the other hand is really the smallest specimen of the series. All specimens received from this gentleman have still conserved their original lively green color of the plumage, and the quills are still red, tinged with golden brown.

Our Museum contains moreover a specimen which was kept alive in the Zoological Garden at Rotterdam and died in January 1885. The locality from where it was brought is unknown, but its superior size allows no doubt as to its coming from the Continent. It differs however from both the Continental and Sumatran specimens by having the feathers of the crown black, with sea-green tips, which latter are generally interrupted by a subterminal black bar. The feathers on the front and a superciliary streak are pure sea-green, like the whole crown is in the common *C. sinensis*. Of course I dare not say if this peculiarity is accidentally or constant. For the case however that afterwards the latter might be stated, I propose to call it *Cissa nigrocoronata.*

159. *Dendrocitta occipitalis.*

Glaucopis occipitalis, S. Müll. Tijdschr. Nat. Gesch. & Phys. II. p.

343, pl. 9, f. 1 (1837); — Schl. Mus. P.-B., Coraces, p. 75 (1867).

Dendrocitta occipitalis, Bp. Consp. Av. I. p. 369; — Sharpe, Cat. Birds Br. Mus. Vol. III. p. 81 (1877); — Salvad. Ucc. di Sumatra, p. 239 (1879); — Nicholson, Ibis 1882, p. 58; id. Ibis 1883, p. 244; — Snelleman, Sum. Exp. Vogels, p. 44 (1884).

9 specimens.

»Iris reddish brown, bill and feet blackish. Native name: *Tankerulie.*"

160. *Platysmurus leucopterus.*

Glaucopis leucopterus, Temm. P. C. II. 265 (1824); — Schl. Mus. P.-B., Coraces, p. 72 (1867); — Snelleman, Sum. Exp. Vogels, p. 44 (1884).

Platysmurus leucopterus, Salvad. Ucc. di Borneo, p. 279 (1874); — Tweedd. Ibis 1877, p. 318; — Sharpe, Cat. Birds Br. Mus. Vol. III. p. 90 (1877); — Salvad. Ucc. di Sumatra, p. 240 (1879); — Nicholson, Ibis 1882, p. 58; id. Ibis 1883, p. 244.

2 specimens.

»Iris chrome-red, bill and feet black. Native name: *Kambing, kambing.*"

161. *Corvus validus.*

Corvus validus, Bp. Consp. Av. I. p. 385 (1850); — Schl. Bijdr. Dierk. Corvus, p. 13, pl. 1, f. 22; id. Mus. P.-B., Coraces, p. 29; — Salvad. Ucc. di Borneo, p. 281 (1874); — Tweedd. Ibis 1877, p. 319; — Snelleman, Sum. Exp. Vogels, p. 44 (1884).

Corone enca (part.) Sharpe, Cat. Birds Br. Mus. Vol. III. p. 43 (1877).

(?) *Corvus tenuirostris*, Salvad. Ucc. di Sumatra, p. 240 (1879).

13 specimens.

»Iris roe-brown, bill and feet black. Native name: *Ga-ga.*"

After having compared these specimens with the 9 from Sumatra, Borneo and Timor already in our collection, and also with a great series of *C. enca*, I must consider *C. validus* a good species, though Mr. Sharpe (l. c.) unites it with *C. enca*. The principal difference lays, beside the difference in size, in the form and, at a certain degree,

the size of the bill. This latter is much straighter in *validus* than in *enca*, where the culmen is more curved and the whole bill more bent downward towards the point. Professor Schlegel, with his experienced eye, saw this difference very clearly, and demonstrated it sufficiently in the above cited excellent plate with the Crows heads. A comparison of the figures of *validus* and *enca* clearly shows this difference.

162. *Treron nasica.*

Treron nasica, Schl. Tijdschr. v. Dierk. I. p. 67 (1863); id. Mus. P.-B., p. 55 (1873); — Salvad. Ucc. di Borneo, p. 283 (1874); id. Ucc. di Sumatra, p. 241 (1879); — Snelleman, Sum. Exp. Vogels, p. 47 (1884).
Treron nepalensis, Tweedd. Ibis 1877, p. 321.

8 specimens (♂ ♂).

»Iris: inner ring ultramarine, outer pale rosy; bare skin round the eye pale green, bill blood-red at base, point pale ochre, feet lake-red. Native name: *Bunai tinggih.*"

163. *Treron oxyura.*

Columba oxyura, Temm. P. C. IV. 240 (1823).
Treron oxyura, Wall.; — Schl. Mus. P.-B., Columbae, p. 62 (1873); — Salvad. Ucc. di Borneo, p. 286 (1874).
Sphenocercus oxyurus, Salvad. Ucc. di Sumatra, p. 243 (1879); — Nicholson, Ibis 1883, p. 255.

20 specimens (10 ♂, 7 ♀, 3 unsexed).

»Iris madder-lake, bare space round the eyes green, bill cobalt-blue, point yellow, feet chrome-yellow. Native name: *Bunai salung.*"

164. *Treron vernans.*

Treron vernans (L.), Schl. Mus. P.-B., Columbae, p. 49 (1873); — Snelleman, Sum. Exp. Vogels, p. 47 (1884); — Salvad. Ucc. di Borneo, p. 286 (1874).
Treron griseicapilla, Schl. Tijdschr. v. Dierk. I. p. 70 (1863).
Osmotreron vernans, Tweedd. Ibis 1877, p. 321; — Salvad. Ucc. di Sumatra, p. 242 (1879).

12 specimens (4 ♂, 8 ♀).

»Iris red, inner ring ultramarine, bill bluish gray, feet madder-lake. Native name: *Bimai.*"

A specimen labelled ♀ has the full plumage of the adult male.

165. *Carpophaga aenea.*

Columba aenea, Linn. S. N. I, p. 283 (1766); — Raffl. t. c. p. 316 (1822).

Carpophaga aenea, Schl. Mus. P.-B., Columbae, p. 85 (1873); — Salvad. Ucc. di Borneo, p. 290 (1874); — Nicholson, Ibis 1882, p. 65; id. Ibis 1883, p. 254; — Snelleman, Sum. Exp. Vogels, p. 48 (1884).

3 specimens (1 ♂, 2 ♀).

»Iris bluish white, eyelid blood-red, bill purplish, point dirty white, feet purplish. Native name: *Pagam.*"

166. *Spilopelia tigrina.*

Columba tigrina, Temm. & Knip, Pig. t. 43 (1811).

Turtur tigrinus, Schl. Mus. P.-B., Columbae, p. 127 (1873); — Snelleman, Sum. Exp. Vogels, p. 48 (1884).

Spilopelia tigrina, Salvad. Ucc. di Borneo, p. 296 (1874); — Tweedd. Ibis 1877, p. 322; — Salvad. Ucc. di Sumatra, p. 247 (1879).

21 specimens.

»Iris pale orange, bill black, feet red. Native name: *Balam.*"

167. *Macropygia leptogrammica.*

Columba leptogrammica, Temm. P. C. IV. 560 (1835).

Macropygia leptogrammica, Schl. Mus. P.-B., Columbae, p. 107 (1873); — Salvad. Ucc. di Sumatra, p. 247 (1879).

2 specimens (♂ and ♀).

»Iris rosy, bill black, feet wine-red. Native name: *Limbuan.*"

168. *Macropygia ruficeps.*

Columba ruficeps, Temm. P. C. IV. 561 (1835).

Macropygia ruficeps, Schl. Mus. P.-B., Columbae, p. 110 (1873); — Salvad. Ucc. di Sumatra, p. 248 (1879).

26 specimens (15 ♂, 11 ♀).

»Iris dark brown, feet wine-red. Native name: *Upan.*"

169. *Geopelia striata.*

Columba striata, L. S. N. I, p. 282 (1766).
Columba bantamensis, Raffl. t. c. p. 317.
Geopelia striata, Schl. Mus. P.-B., Columbae, p. 131 (1873); — Tweedd. Ibis 1877, p. 322; — Salvad. Ucc. di Sumatra, p. 247 (1879); — Snelleman, Sum. Exp. Vogels, p. 49 (1884).

4 specimens (2 ♂, 2 ♀).

»Iris blue, skin round the eyes grayish green, bill and feet bluish gray."

170. *Polyplectron chalcurum.*

Polyplectron chalcurum, Temm. P. C. V. 519; — Nicholson, Ibis 1883, p. 255.
Chalcurus inocellatus, Salvad. Ucc. di Sumatra, p. 248 (1879).

4 specimens (♂♂).

»Iris orange-red, bill black, feet lead-color. Native name: *Karo-Karo.*"

171. *Argusianus argus.*

Phasianus argus, L. S. N. I. p. 272 (1766); — Raffl. t. c. p. 320.
Argus giganteus, Müll. Verh. Land- en Volkenk. p. 439 (partim, sub. nom. *Koewau*).
Argusianus argus, Tweedd. Ibis 1877, p. 322; — Salvad. Ucc. di Sumatra, p. 249 (1879).

4 specimens (adult ♂, young ♂, 2 ♀).

»Iris chocolate-brown, bare skin on head and neck cobalt-blue, bill dirty white, feet vermilion. Native name: *Kuau.*"

172. *Acomus inornatus.*

Acomus inornatus, Salvad. Ucc. di Sumatra, p. 250 (1879).

1 specimen (♂).

»Iris brown, bare skin on sides of head blood-red, except a spot behind the eye which is whitish yellow, bill lead-color, feet gray. Native name: *Ajam merah mata.*"

This specimen exactly agrees with the description given by Count Salvadori.

173. *Gallus ferrugineus.*

Phasianus gallus, L.; — Raffl. t. c. p. 319.
Tetrao ferrugineus, Gm. S. N. I. p. 761 (1788).
Gallus bankiva, Temm. Pig. et Gall. II. p. 87 (1813).
Gallus ferrugineus, Salvad. Ucc. di Sumatra, p. 251 (1879); — Nicholson, Ibis 1882, p. 65; id. Ibis 1883, p. 255; — Snelleman, Sum. Exp. Vogels, p. 47 (1884).

3 specimens (♂ ♂).

»Iris orange-red, crest madder-lake, behind the ear whitish blue, bill light green, culmen purplish, feet grayish yellow. Native name: *Ajam vimbo.*"

174. *Peloperdix rubrirostris.*

Peloperdix rubrirostris, Salvad. Ucc. di Sumatra, p. 251 (1879); — Snelleman, Sum. Exp. Vogels, p. 46, pl. III (1879).

1 specimen (adult ♀).

»Iris brown, bare space round the eye, bill and feet coral-red. Native name: *Buju rimbo.*"

This specimen is the second of this species in our Museum, the first (♀) having been collected by the Dutch Sumatra Expedition at Alahan Pandjang (1877).

175. *Caloperdix oculea.*

Perdix oculea, Temm. Gall. Ind. XIII. p. 732 (1815).
Tetrao ocellatus, Raffl. t. c. p. 322.
Caloperdix oculea, Salvad. Ucc. di Sumatra, p. 252 (1879); — Nicholson, Ibis 1883, p. 255.

1 specimen (adult ♂).

»Iris brown, bill black, feet lead-color. Native name: *Tarun-tarun.*"

176. *Rollulus roulroul.*

Phasianus roulroul, Scop. Del. Flor. et Faun. Insubr. II, p. 43 (1780).
Tetrao viridis, Gm.; — Raffl. t. c. p. 322.
Rollulus roulroul, Tweedd. Ibis 1877, p. 322; — Salvad. Ucc. di Sumatra, p. 252 (1879); — Nicholson, Ibis 1882, p. 65.
Cryptonyx roulroul, Snelleman, Sum. Exp. Vogels, p. 46 (1884).

2 specimens (♂, ♀).

»Iris brown, bare skin round the eye, and feet chrome-red, bill black, chrome-red at base. Native name: *Peniuh.*"

177. *Charadrius fulvus.*

Charadrius fulvus, Gm. S. N. I. p. 687 (1788, ex Lath.); — Tweedd. Ibis 1877, p. 322; — Snelleman, Sum. Exp. Vogels, p. 50 (1884).
Charadrius pluvialis var., Raffl. t. c. p. 328 (1822).
Pluvialis fulvus, Schl. Mus. P.-B., Cursores, p. 50 (1865).

3 specimens (1 ♀, 2 unsexed).

»Iris brown."

178. *Totanus hypoleucos.*

Tringa hypoleucos, L. S. N. I. p. 250 (1766).
Totanus hypoleucos, (Temm.) Müll. Verh. Land- en Volkenk. p. 22; — Dresser, Birds of Europe, VIII. p. 127.
Actitis hypoleucos, Schl. Mus. P.-B., Scolopaces, p. 80 (1864); — Snelleman, Sum. Exp. Vogels, p. 49 (1884).
Tringoides hypoleucos, Tweedd. Ibis 1877, p. 322; — Salvad. Ucc. di Sumatra, p. 252 (1879); — Nicholson, Ibis 1883, p. 256.

1 specimen (♀).

179. *Gallinago stenura.*

Scolopax gallinago, Raffl. t. c. p. 327.
Scolopax sthenura, Kuhl, in Bp. Ann. di Stor. Nat. III. fasc. X (1830).
Gallinago stenura, Schl. Mus. P.-B., Scolopaces, p. 12 (1864); — Salvad. Ucc. di Borneo, p. 334 (1879).

1 specimen (♀).

»Iris brown, bill black, basal part dirty white, feet grayish yellow. Native name: *Baki kete.*"

180. *Erythra phoenicura.*

Rallus phoenicurus, Penn. Ind. Zool. p. 19, pl. 9 (1781); — Gm. S. N. I. p. 715 (1788).
(?) *Rallus sumatranus*, Raffl. t. c. p. 328.
Gallinula phoenicura, Schl. Mus. P.-B., Ralli, p. 41 (1865).
Erythra phoenicura, (Rchb.); — Tweedd. Ibis 1877, p. 323; — Snelleman, Sum. Exp. Vogels, p. 50 (1884); — Salvad. Ucc. di Sumatra, p. 253 (1879); — Nicholson, Ibis 1882, p. 65.

4 specimens (2 ♂, 2 ♀).

»Iris rusty brown, bill greenish yellow, frontal plate dirty blood-red, feet dirty yellow. Native name: *Roa-roa.*"

181. *Ortygometra cinerea.*

Porzana cinerea, (Vieill.); — Schl. Mus. P.-B., Ralli, p. 32 (1865).
Ortygometra cinerea, Salvad. Ucc. di Borneo, p. 329 (1879) (with synonymy).

2 specimens (♂, ♀).

»Iris brick-red, bill brown, feet yellowish green. Native name: *Sinta.*"

182. *Ardea purpurea.*

Ardea purpurea, L. S. N. I. p. 236 (1766); — Schl. Mus. P.-B., Ardeae, p. 8 (1863); — Tweedd. Ibis 1877, p. 323; — Salvad. Ucc. di Sumatra, p. 253 (1879); — Snelleman, Sum. Exp. Vogels, p. 51 (1884).

16 specimens.

»Native name: *Bango lanta.*"

183. *Demiegretta sacra.*

Ardea sacra, Gm. S. N. I. p. 640 (1766) (ex Lath.).
Ardea jugularis, Forst. Icon. ined.; — Wagl. Syst. Av. Gen. Ardeae, sp. 18 (1827); — Schl. Mus. P.-B., Ardeae, p. 25 (1863).
Demiegretta sacra, Salvad. Ucc. di Borneo, p. 346 (1874); — Tweedd. Ibis 1877, p. 323.

1 specimen (dark ♀).

»Iris sulphur-yellow, bill and feet yellow. Native name: *Bangoh ajer.*"

184. *Herodias intermedia.*

Ardea intermedia, Wagl. Isis 1829, p. 659; — Schl. Mus. P.-B., Ardeae, p. 19 (1863); id. Tijdschr. Dierk. III. p. 348 (1866); — Salvad. Ucc. di Borneo, p. 348 (1874); — Nicholson, Ibis 1883, p. 256.

1 specimen (♂ jun.).

»Iris sulphureous, bill yellow, tip black, feet black. Native name: *Bangoh putih.*"

185. *Bubulcus coromandus.*

Cancroma coromanda, Bodd. Tabl. Pl. enl. p. 54 (1783).
Ardea coromanda, Schl. Mus. P.-B., Ardeae, p. 30 (1863).
Bubulcus coromandus, Salvad. Ucc. di Borneo, p. 350 (1874); — Nicholson, Ibis 1883, p. 257.

1 specimen (♂ juv.).

»Iris sulphureous, bill yellow, feet black. Native name: *Bangoh putih.*"

186. *Butorides javanica.*

Ardea javanica, Horsf. t. c. p. 190; — Raffl. t. c. p. 326; — Schl. Mus. P.-B., Ardeae, p. 43 (1863).
Butorides javanica, Salvad. Ucc. di Borneo, p. 351 (1874); — Tweedd. Ibis 1877, p. 323; — Nicholson, Ibis 1883, p. 256.

1 specimen.

187. *Ardetta cinnamomea.*

Ardea cinnamomea, Gm. S. N. I. p. 643 (1788); — Raffl. t. c. p. 326; — Schl. Mus. P.-B., Ardeae, p. 40 (1863).
Ardetta cinnamomea, Salvad. Ucc. di Borneo, p. 354 (1874).

3 specimens.

»Iris sulphur-yellow, bill yellow, feet greenish yellow. Native name: *Roah-roah bankeh.*"

188. *Gorsachius melanolophus.*

Ardea melanolopha, Raffl. t. c. p. 326 (adult, Sumatra); — Blyth, Ibis 1865, p. 38 (Malacca, Aracan, Ceylon, Philippines).
Nycticorax limnophilax, Temm. P. C. V. 581 (1836) (juv. Java).

Botaurus limnicola, Rchb. Syn. Av. II. Grallatores, t. 148, fig. 510 (juv. apud tab. 581 in Temm. Pl. Col.).

Tigrisoma melanolopha, Layard, Ann. & Mag. Nat. Hist. 1854, p. 114 (Ceylon).

Botaurus limnophilax, Bp. Consp. Av. II. p. 136 (1855) (apud Temm.); — Gray, Handl. Birds, III. p. 32 (1871); — Salvad. Ucc. di Borneo, p. 355 (1874) (Borneo); — Reichenow, J. f. O. 1877, p. 247.

Gorsachius goisaki, Bp. Consp. Av. p. 138 (descr. ad. nec non juv.!) (Japan?).

Gorsachius typus, Pucheran (teste Bp., l. c.).

Ardea goisagi, Swinh. Ibis, 1861, p. 344 (juv. North China).

Ardea limnophylax, Schl. Mus. P.-B., Ardeae, p. 55 (1863) (Philippines, Banka, Java).

Nycticorax melanolophus, Swinh. P. Z. S. 1863, p. 320 (Tientsin).

Gorsachius goisagi, Swinh. Ibis 1866, pp. 122, 123 (juv. Formosa); id. Ibis 1866, p. 403 (ad. Formosa).

Ardea philippensis, Martens (nec Gm.) J. f. O. 1866, p. 28 (Philippines).

Gorsachius melanolophus, Blyth, Ibis 1867, p. 173 (partim) and p. 309 (partim) (Ceylon); — Salvad. Ucc. di Borneo, p. 355 (1874) (Borneo?); — Walden, Trans. Z. S. IX (1875) p. 238 (Philippines); — David & Oustalet, Ois. de la Chine, p. 444 (partim); — Hume, Stray Feath. 1878 (Vol. VI), p. 484 (Tenasserim); — Sharpe, Ibis 1879, p. 271 (Borneo); — Legge, Birds of Ceylon, p. 1169 (1880) (Ceylon); — Gurney, Ibis 1883, p. 222 (East Coast of Ceylon).

(?) *Goisachius melanolophus*, Swinh. P. Z. S. 1871, p. 413 (Formosa); — Holdsworth, P. Z. S. 1872, p. 478 (Ceylon).

Goisakius melanolophus, Hume, Stray Feath. 1874, p. 312 (Nicobars); — Bourdillon, Stray Feath. 1878 (Vol. VII) p. 524 (Travancore); — Hume, Stray Feath. 1879, p. 71 (Malacca); — Hume, Stray Feath. 1880, p. 230 (Nicobars, Tenasserim, Malay Peninsula, Cachar, Assam, Travancore, Belgaum District (Indian Penins.)); — id. l. c. p. 259 (Cachar); — Butler, l. c. p. 435 (Belgaum); — Kelham, Ibis 1882, p. 196 (Singapore).

Botaurus melanolophus, Reichenow, J. f. O. 1877, p. 246.

Butio Kutteri, Cab. Orn. Centralbl. 1881, p. 159; id. J. f. O. 1881, p. 425 (Philippines); id. J. f. O. 1882, pp. 115, 178, pl. III.

1 specimen (full-grown jun. ♂).

»Iris sulphur-yellow, bill dark brown, edges of upper

and whole lower mandible whitish blue, feet dirty yellow. Native name unknown."

Collected 8 January near Moeara Laboe.

This specimen is, as far as I know, the first instance for the occurrence of this species in Sumatra, since Raffles recorded his typical adult bird from that Island. It differs in no way from the well-known immature plumage of this species, plainly described in several papers throughout ornithological literature, and upon which Temminck has based his *Nycticorax limnophilax*.

I do not believe that at present still some doubts exist as to the identity of *G. limnophilax* (Temm.) with *G. melanophus* (Raffl.), as the first name is, with the exception of Gray (Handl.) and Salvadori (Ucc. di Borneo 1874), no more applied to any form of this genus, since Schlegel's Catalogue of the *Ardeae* in the Leyden Museum was published.

At that time Schlegel disposed of three specimens of this species: an adult bird from the Philippines and three immature though full-grown ones, one of which from Banka, the two others from Java. Since that time the Museum received five other ones, i. e. an adult and two immature from Java, and two adult, one of which is from Banka, while the other is collected by Teysmann either in Banka or in Borneo, and this series is now increased by the above mentioned young male from Sumatra. In this series is a specimen — n°. 2 of Schlegel's Catalogue — in immature plumage, but having the sides of head and neck, interscapulary feathers and scapularies already very strongly tinged with the reddish brown, which is so characteristical in the plumage of the adult. The black occipital feathers in this specimen are still spotted with white. The specimen considered by Prof. Schlegel to be adult, has not yet assumed its fully adult plumage, though its crest is entirely black, the dark vermiculations on back, wing-coverts and tertiary quills being much more intensely expressed than is the case with the fully adult specimen from Java.

This species seems to range over whole continental India,

Ceylon, the Nicobar Islands, China, Formosa, the Philippines and the three great Sunda Islands, incl. Banka. In Ceylon and the Nicobars, the Malayan Peninsula and the Sunda Islands it is only found as a winter-visitant, while nestlings are recorded from different parts of the Continent and from Formosa (Swinhoe).

The synonymy of this species is much entangled with that of *G. goisagi* (Temm.) from Japan, and hitherto it was not out of question if the latter be really a good species or if it has to be added to the synonymy of *G. melanolophus*.

A comparative examination of our material of this genus and the literature in which it is treated of, convinced me however that both species are to be kept specifically distinct. The synonymy of the Japanese species would be as follows:

Gorsachius goisagi.

Nycticorax goisagi, Temm. P. C. V. 582 (1836) (adult, Japan); — Hartl. & Finsch, P. Z. S. 1868, p. 8 (Pelew Isl.); id. P. Z. S. 1872, p. 89.

Ardea goisagi, Temm. & Schl. Fauna Jap. p. 116, pl. 70 (1850); — Blackiston, Ibis 1862, p. 331 (Northern Japan); — Swinhoe, Ibis 1865, p. 358 (Formosa).

Gorsachius goisagi, Blyth, Ibis 1865, p. 38 (Japan).

Goisakius melanolophus, Gray, Handl. Birds, p. 33 (1871) (Japan, Pelew Isl.).

Nycticorax melanolophus, Finsch, Journ. Mus. Godeffroy, VIII, p. 35 (1875).

Botaurus melanolophus, Reichenow, J. f. O. 1877, p. 246.

Goisachius melanolophus, Blackiston & Pryer, Ibis 1878, p. 223 (Japan); — Seebohm, Ibis 1884, p. 176 (Japan).

Gorsachius melanolophus, Ramsay, Ibis 1884, p. 325 (Philippines).

Our series of this species has not encreased since Prof. Schlegel wrote his Catalogue of the *Ardeae*. It still consists of 4 specimens from Japan, and contains the specimens used for the plates published in the Pl. Col. and the Fauna Japonica (adult and young).

The following are the essential differences between both species:

G. melanolophus: Bill very strong and straight, length from front in adult specimens 47 mm., in young 41—44 mm. Crown and occipital crest in adult plumage pure black, the latter composed of much elongated narrow feathers. In the immature plumage (*limnophilax*) the occipital crest is, though strongly, not as much developed as in the adult, and each feather of it is spotted with white. Tips to all the primaries, in both adult and young, rusty red and conspicuously terminated with white.

G. goïsagi: Bill slightly bent downward towards the tip, more slender and shorter than in *melanolophus*, length 36—40 mm. in the adult, 35 mm. in the somewhat younger specimen. (A comparison of the bills in specimens of about the same age makes the distinctness of both species quite evident, though it is not easy to formulate all the distinctive characters in words).

Crown and occipital feathers in adult specimens rusty red, the first with narrow black shaft-lines, the latter but slightly lengthened and not as stiff and narrow as in its black-crested congener. The younger bird in our collection (♀) [1]) has the entire crown blackish, and the slightly lengthened occipital feathers as well as the whole neck — with the exception of chin and throat — and whole upper surface dark brown, and all over irregularly and narrowly vermiculated with rusty brown. The characteristical white cross-patches on the crest in they oung *G. melanolophus* are in this species entirely wanting. It may possibly turn out afterwards that this specimen is in a very advanced stage of immature plumage, but hitherto it is the youngest of all authentical specimens from Japan.

The tips to the primaries are rusty red like in the other species, but only the first primary is conspicuously terminated with white, i. e. only on the outer web at a length

1) See the posterior figure on plate 582 of the Fauna Japonica.

of about an inch pure white, this color being but slightly perceptible on the second and still less on the third primary.

A chronological revue of the essential papers hitherto published on both species of the Tiger-Bittern shows the following results:

The first author mentioning a member of this genus is Raffles, who described the adult stage of the Indo-Malayan Tiger-Bittern from Sumatra under the name *Ardea melanolopha* (» ..... is of a chesnut colour mottled with black; tail and crest black; bill rather short.....''). In 1836 Temminck (Pl. Col.) described and figured the young stage of *A. melanolopha* Raffl. under the name of *Nycticorax limnophilax*, and says that this bird is a winter-visitant in Java and probably also in other Islands of the Archipelago. The figure of this bird (Pl. 581) is not very carefully done and gives but a general impression of the bird which it ought to represent. At the same time Temminck described and figured another species from Japan, *Nycticorax goisagi* (Pl. Col. V. pl. 582). Of the occipital crest he says in his tolerably ample description: »L'occiput et la nuque sont couverts de larges et longues plumes qui forment une ample touffe occipitale'', but in the figure the crest, really present in all our specimens, is entirely wanting.

Temminck and Schlegel (Fauna Jap. 1842) have given very accurate figures of the Japanese *A. goisagi*. The original specimens used (both adult and young) are contained in our collection.

Reichenbach (Grallatores pl. 148, N°. 509 and 510 (1846) has copied the figures of Temminck's Pl. Col., but calls Temminck's *Nycticorax limnophilax* » *Botaurus limnicola*'', and in 1851 he copied also the figures from the Fauna Japonica under the name *Botaurus Goisagi* (Novit. 149, fig. 2566—67).

Bonaparte (Conspectus Avium 1850) mentions *Ardea limnophilax* as a good species, while on the other hand he describes a black-crested specimen from Japan (?) as the adult, and the red-crested (the real *Goisagi* of Temm.) as the young stage of *Gorsachius goisagi*. The generic name *Gor-*

sachius is here mentioned for the first time, though Bonaparte calls Pucheran the Author of it (*Gorsachius typus*, Pucheran). Though Bonaparte says expressly of the black-crested specimen: »ex Japan, nec Ins. Philippensibus", I have some doubts as to its really coming from Japan and rather suspect that it has been brought from elsewhere, because no authentical black-crested specimen, neither adult nor young, have ever since been brought from that Island. *G. melanolophus* is twice mentioned as having been collected in Japan (vide antea, sub synonymy of *G. goisagi*), but none of the authors enters upon the question nor do they mention the black crest or any other distinctive character of this species. But supposed that really black-crested adult specimens would be found in Japan, I should rather believe in the occurrence of both species next each other, than in the identity of *G. goisagi* with *G. melanolophus*.

Layard (Ann. & Mag. of Nat. Hist. 1854, p. 114) restored the name of Raffles, by calling his Ceylonese black-crested birds *Tigrisoma melanolopha*. His two or three specimens were collected near Colombo during the month of November.

Prof. Schlegel, in his Catalogue (Ardeae 1863), was the first who thoroughly pointed out that the plain black-crested bird (*melanolophus* Raffl.) is the adult, and that with the white-spotted black crest (*limnophilax* Temm.) the young of one and the same species, but, being not aware of the description and name given by Raffles, bestowed upon the united species Temminck's more recent name *Ardea limnophilax*, while the red-crested (Japanese) species keeps in his Catalogue the name *A. goisagi*.

Swinhoe, also in 1863 (P. Z. S. p. 320), mentions *Nycticorax melanocephalus*, but erroneously considers *A. goisagi* from Japan identical with his bird which was collected in Tientsin (China).

Blyth (Ibis 1865, p. 38) considers *A. melanolopha* Raffl. to be the young bird of this species, and keeps the red-crested Japanese bird (*A. goisagi*) specifically distinct.

In the same year (Ibis 1865, p. 358) Swinhoe described

the nearly adult *Ardea goisagi* from Formosa: »Crown and occiput without crest, each feather marked along the middle with black. Only the first quill-feather tipped with white... Bill from forehead 1.62 inch... Large testes on dissection. The whole plumage about three parts advanced to maturity." This description suits so perfectly well the true *Goisagi* from Japan, that no further doubt can exist about the occurrence of this species in Formosa.

A few months afterwards (Ibis 1866, pp. 122, 123) Swinhoe again sent some notes concerning this matter, i. e. about two young nearly full-grown birds from Formosa, which he considered also to belong to *G. goisagi*. The description of these specimens however states clearly their belonging to *G. melanolophus*: ».... Coronal and occipital feathers fine black, with white spots and streaks... Quills black, broadly tipped with white, which is mottled more or less with brown..." The Island Formosa would thus contain both *G. melanolophus* and *G. goisagi*, and the first would be found breeding there, as Swinhoe states that both nearly full-grown nestlings »were taken, with their mother, from a tree at the foot of the inland mountains", adding that unfortunately the parent did not reach him.

In the Ibis of the same year (p. 403), and again in P. Z. S. 1871, p. 413, Swinhoe says that *G. melanolophus* and *goisagi* are identical, the black-crested birds representing the summer-dress, the entirely red-headed ones the winter-dress, or in other words, that the bird would wear the black crown and crest only in summer and drop it in the winter, so as to leave the head and occiput entirely red.

But, as Tweeddale did already observe (Trans. Z. S. IX. p. 239), this view cannot be adopted, as all specimens hitherto known from the Continent and the Archipelago — and most of them have been collected in winter — wore the black crest either plain (adult) or intermixed with white spots (immature).

Blyth (Ibis 1867, pp. 173, 309) adhere to the opinion of Swinhoe as to the seasonal change of plumage, though

he cannot bring forward any fact to base this opinion upon.

Von Martens (J. f. O. 1866, p. 28) mentions a Tiger-Bittern from the Philippines (Bibliotheca militar, Manila) under the name of *Ardea* (*Botaurus*) *philippensis* Gm., but does not mention if the specimen has the occipital crest red or black, and therefore it is undecided to which of both species the bird belongs.

Hartlaub and Finsch (P. Z. S. 1868, pp. 4, 8) enumerate *Nycticorax goisagi* from the Pelew Islands and add — on what reason they do not say — that the Philippines are the transitional station for this bird (p. 4). One can thus conclude that aforesaid authors consider this bird as a migrant which, on its trip from Japan to the Pelew Islands, would have a stop on the Philippines.

G. R. Gray (Handl. III. pp. 32, 33) enumerates *Botaurus limnophilax* as coming from the Philippines, and *Goisakius melanolophus*, which he considers identical with *G. goisagi* from Japan and the Pelew Islands, while no other locality is mentioned as habitat of either of both species.

Holdsworth (P. Z. S. 1872, p. 478) records *Goisachius melanolophus* from Aripo, West Coast of Ceylon, as a winter-visitant, shot in November.

Hume, in different parts of »Stray Feathers" (1874, 1878 Vol. VI, 1879, 1880), considers *G. melanolophus* and *G. goisagi* to be identical, but all his continental, Ceylonese and Nicobar specimens, mentioned under the name *Goisakius melanolophus*, of course belong to the first species. The same is the case with those mentioned in other publications in the »Stray Feathers" by Bourdillon (1878 VII) and Butler (1880).

Salvadori (Ucc. di Borneo, 1874, p. 355) again separates the young *G. melanolophus* under the name *Botaurus limnophilax*, while on the other hand he unites the adult black-crested bird with the Japanese form, giving this united form the name *Gorsachius melanolophus*. The same way is followed by Reichenow (J. f. O. 1877, pp. 246, 247).

Finsch (Journ. Mus. Godeffroy, 1875, Heft VIII. p. 35)

also seems to believe in the identity of *G. goisagi* with *G. melanolophus*, as, speaking of the specimen from Pelew Isl. already mentioned by him and Hartlaub (P. Z. S. 1868, p. 8) as *Nycticorax goisagi*, he now calls it *N. melanolophus*, though repeating that it agrees completely with the posterior figure of *A. goisagi* in the Fauna Japonica. Finsch considers this specimen, being the only one that ever was found in the Pelew group of Islands, an accidental visitor and has dropped the idea that the Philippines are to be considered an intermediate station for this bird.

Lord Tweeddale (Viscount Walden) treated the question very critically in his Birds of the Philippines (Trans. Z. S. IX. p. 238). This author believes the Philippine bird to be *G. melanolophus*, but is undecided as to the Japanese bird being entitled to stand as a distinct species.

David and Oustalet (Ois. de la Chine, 1877, p. 444) unite the different forms under the head of *Gorsachius melanolophus*, fixing the differences between the adult *melanolophus* and *goisagi* in the following term: »Vertex, nuque et plumes occipitales d'un brun marron foncé ou d'un brun noirâtre foncé, suivant les saisons et les localités". And about the differences between adult and young, thus as well of the Indian as of the Japanese form, these authors say: »Chez les jeunes, les teintes des parties supérieures sont encore moins uniformes, et les plumes de la huppe offrent en général des taches blanches arrondies."

Blackiston and Pryer (Ibis 1878, p. 223) mention *Goisachius melanolophus* as coming from Japan, and though they give no description of the bird, I am pretty sure that they had *G. goisagi*, which they considered identical with *G. melanolophus*.

Sharpe (Ibis 1879, p. 271) is the first who mentions, under the name of *Gorsachius melanolophus*, an authentic specimen from Borneo.

Legge (Birds of Ceylon, p. 1169 and ff.), following the example of previous authors, unites the Japanese bird with

the Indian *G. melanolophus*, and beside careful descriptions of different stages of the bird, gives many details about the habits and a list of the places and dates on which the bird is hitherto met with.

Lieut. Kelham (Ibis 1882, p. 196) mentions the true *G. melanolophus* from Singapore.

Mr. Gurney (Ibis 1883, p. 222) tells us that a specimen of the same species (♂ juv.) was shot near Lemastotle (Ceylon), being the first known specimen from the eastern side of that Island.

Seebohm mentions *G. melanolophus* from Japan, but as he says nothing about the crest, it is tolerably certain that he unites both species, and that his specimen belongs to *G. goisagi*.

Ramsay (Ibis 1884, p. 335) has received from the vicinity of Manilla a specimen »in immature plumage, which agrees in the length and shape of the bill with an adult specimen from Japan", while »it differs from all the specimens from other localities in this respect." From all that and what Mr. Ramsay further says, I must conclude that his specimen was undoubtedly a true *G. goisagi*, which might have visited the Philippines as a straggler, just as well as has been the case with the specimen which has been brought from the Pelew Islands.

Cabanis (J. f. O. 1881, p. 425) accepts the generic name *Butio*, proposed by Dr. Reichenow in the place of *Gorsachius*, and not only considers *G. goisagi* a distinct species, but separates the Philippine bird from *G. melanolophus* as a new species, under the name of *Butio Kutteri*, on account of its somewhat inferior size. The result of a measurement of the birds in our collection shows really, that the specimen from the Philippines is somewhat inferior to the common size of *G. melanolophus* (with the exception of the bill), but as one of our specimens from Banka is of the same size, the Philippine specimens are hardly entitled to claim specific rank.

189. *Leptoptilos javanicus.*

Ciconia javanica, Horsf. t. c. p. 188.
Ardea dubia, Raffl. t. c. p. 325.
Ciconia capillata, Temm. P. C. V. 312.
Mycteria javanica, Schl. Mus. P.-B., Ciconiae, p. 13 (1864) — Snelleman, Sum. Exp. Vogels, p. 51 (1884).
Leptoptilos javanicus, Salvad. Ucc. di Borneo, p. 358 (1874); — Nicholson, Ibis 1883, p. 257.

4 specimens (1 ♂, 3 ♀).

»Iris whitish, head dirty white, lower surface of bill dirty purplish, spotted with black, neck lemon-yellow, feet dark brown. Native name: *Bangoh kambing.*"

Leyden Museum, September 1886.

CORRECTIONS:

p. 6, line 19 (from top), for »*Chrysoccyx maculatus* (Gm.)" read »*Chrysococcyx maculatus* (Gm.)".

p. 59, species 109, for »*Choropsis zosterops*" read »*Chloropsis zosterops*".

p. 62, species 120, between »*Turdus sp.* 6, Raffl." and »*Ixidia cyaniventris*, Salvad." add:

Pycnonotus cyaniventris, Blyth, J. A. S. Beng. XI, p. 792 (1841).

RECAPITULATION. [1])

Falconidae.

	Page
1. Microhierax fringillarius (Drap.).	7.
2. Haliaetus leucogaster (Gm.).	"
3. Polioaetus humulis(Müll & Schl.).	"
4. Spilornis bacha (Daud.).	8.
5. Pernis ptilorhyncha (Temm.).	9.
6. Haliastur indus (Bodd.).	10.
7. Spizaetus limnaetus (Horsf.).	"
8. Astur trivirgatus (Temm.).	"
9. Accipiter virgatus (Temm.).	11.

Strigidae.

10. Ninox scutulata (Raffl.).	"
11. Scops lempiji (Horsf.).	"
12. Ketupa javanensis (Less.).	12.
13. Phodilus badius (Horsf.).	"

Psittacidae.

14. Psittinus incertus (Shaw).	"
15. Loriculus galgulus (L.).	"

Trogonidae.

16. Trogon erythrocephalus, Gould.	13.
17. " Mackloti, Müll.	14.
18. " oreskios, Temm.	"

Capitonidae.

19. Psilopogon pyrolophus, Müll.	"
20. Megalaema chrysopogon(Temm.)	15.
21. " mystacophanos (Temm.).	"
22. " Henricii (Boie).	"
23. " Oorti (Müll.).	16.
24. Xantholaema haemacephalus (Müll.).	16.
25. " Duvaucelii (Less.).	"
26. Calorhamphus fuliginosus(Temm.).	"

Picidae.

27. Iyngipicus auritus (Eyt.).	18.
28. Xylolepes validus (Temm.).	"
29. Hemicercus sordidus (Eyt.).	"
30. Lepocestes porphyromelas(Boie).	23.
31. Callolophus puniceus (Horsf.).	"
32. " mentalis (Temm.).	"
33. " malaccensis (Lath.).	24.
34. Chrysophlegma mystacalis, Salvad.	25.
35. Tiga javanensis (Ljungh).	"
36. " Rafflesii (Vig.).	"
37. Miglyptes grammithorax(Malh.).	"
38. Micropternus brachyurus(Vieill.)	26.

Cuculidae.

*39. Chrysococcyx maculatus (Gm.).	"
40. " xanthorhynchus (Horsf.).	27.
41. Surniculus lugubris (Horsf.).	"
42. Cacomantis pravata (Horsf.).	"
43. " merulina (Scop.).	28.
44. Hierococcyx fugax (Horsf.).	"
45. Cuculus concretus, Müll.	"
46. Coccystes coromandus (L.).	29.
47. Eudynamis orientalis (L.).	"
48. Rhinorta chlorophaea (Raffl.).	"
49. Rhopodytes elongatus (Müll.).	30.
50. " Diardi (Less.).	"
51. Rhamphococcyx erythrognathus (Hartl.).	31.
52. Centrococcyx rectunguis(Strickl.)	32.
53. Centropus eurycercus, Hay.	"

1) The species prefixed by an * are new for Sumatra.

Bucerotidae.

Page

54. Buceros rhinoceros, L. 32.
55. Anthracoceros convexus (Temm.) 33.
56. " malayanus (Raffl.) "
57. Rhytidoceros undulatus (Shaw). 34.
58. Anorrhinus comatus (Raffl.). "
59. " galeritus (Temm.). 35.
60. Cranorrhinus corrugatus (Temm.). "
61. Rhinoplax vigil (Forst.). 36.

Meropidae.

62. Merops sumatranus, Raffl. "
63. Nyctiornis amicta (Temm.). "

Alcedinidae.

64. Pelargopsis javana (Bodd.). 37.
65. Ceyx rufidorsa, Strickl. "
66. Halcyon coromanda (Lath.). 38.
67. " pileata (Bodd.). "
68. Sauropatis chloris (Bodd.). "

Cypselidae.

69. Collocalia fuciphaga (Thunb.). "
70. Macropteryx longipennis (Rafin.) 39.
71. " comata (Temm.). "
72. Chaetura coracina (Bp.). "
73. Hirundinapus giganteus (Temm.) 40.
74. " Klaesii, Bütt. *n. sp.* "

Coraciadae.

75. Eurystomus orientalis (L.). 41.

Eurylaemidae.

76. Psarisomus psittacinus (Müll.). 42.
77. Eurylaemus ochromelas, Raffl. 43.
78. Cymborhynchus macrorhynchus (Gm.). "
79. Corydon sumatranus (Raffl.). 44.
*80. Serilophus lunatus, Gould. "

Muscicapidae.

81. Niltava grandis (Blyth). 45.
82. Alseonax latirostris (Raffl.). "

Page

83. Stoparola thalassinoides (Cab.). 45.
84. Terpsiphone affinis (Blyth). "
85. Philentoma velatum (Temm.). 46.

Artamidae.

86. Artamus leucogaster (Valenc.). "

Campephagidae.

87. Pericrocotus xanthogaster (Raffl.) "
88. Lalage terat (Bodd.). 47.
89. " culminata (Hay). "
90. Artamides sumatrensis (Müll.). "
91. Irena crinigera, Sharpe. "

Dicruridae.

92. Chibia sumatrana (Ramsay). 48.
93. Chaptia malayensis, Hay. 49.
*94. Buchanga stigmatops, Sharpe. "
95. Bhringa remifer (Temm.). "
96. Dissemurus platurus (Vieill.). 50.

Laniidae.

97. Hemipus intermedius, Salvad. 51.
98. Tephrodornis gularis (Raffl.). 52.
99. Lanius bentet, Horsf. 53.
100. " tigrinus, Drap. "

Nectariniidae.

101. Aethopyga siparaja (Raffl.). 56.
102. Chalcostetha insignis (Jard.). "
103. Cinnyris Hasselti (Temm.). "
104. Arachnothera robusta, Müll. & Schl. "
105. Arachnothera modesta (Eyt.). 57.
106. " chrysogenys, Temm. 58.
107. " flavigaster (Eyt.). "

Melliphagidae.

108. Aegithina viridis (Bp.). 59.
109. Chloropsis zosterops, Vig. "
110. " media (Bp.). "
111. " icterocephala (Less.). 60.
112. " cyanopogon (Temm.). "
113. " venusta (Bp.). "

Brachypodidae.

		Page
114.	Trachycomus ochrocephalus (Gm.).	60.
115.	Pycnonotus bimaculatus (Horsf.).	61.
116.	" analis (Horsf.).	"
117.	" plumosus, Blyth.	"
118.	" simplex, Less.	"
119.	Rubigula dispar (Horsf.).	62.
120.	" cyaniventris (Blyth).	"
121.	" Webberi (Hume).	"
122.	Micropus melanocephalus (Gm.)	"
*123.	" melanoleucus (Eyt.).	63.
124.	Hemixus cinereus (Blyth).	"
125.	" malaccensis (Blyth).	"
126.	Tricholestes criniger (Blyth).	"
127.	Criniger gutturalis (Bp.).	64.
128.	Iole olivacea, Blyth.	"

Pittidae.

129.	Pitta coerulea (Raffl.).	"
130.	" cyanoptera, Temm.	"
*131.	" cucullata, Hartl.	"

Timeliidae.

*132.	Myiophoneus flavirostris (Horsf.)	65.
133.	" melanurus (Salvad.).	66.
134.	" castaneus, Ramsay.	"
135.	Turdinus loricatus (Müll.).	"
136.	Platylophus coronatus (Raffl.).	67.
137.	Garrulax bicolor, Hartl.	"
138.	" palliatus (Bp.).	"
139.	Melanocichla lugubris (Müll.).	"
140.	Rhinocichla mitrata (Müll.).	68.
141.	Mixornis gularis (Raffl.).	"
142.	Eupetes macrocercus, Temm.	"

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143.	Henicurus frontalis, Blyth.	68.
144.	" velatus, Temm.	69.
145.	Cittocincla tricolor (Vieill.).	"
146.	Copsychus musicus (Raffl.).	"

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147.	Turdus obscurus, Gm.	"
148.	Geocichla sibirica (Pall.).	70.

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149.	Motacilla melanope, Pall.	70.
150.	Limonidromus indicus (Gm.).	"
151.	Anthus rufulus, Vieill.	"

Fringillidae.

152.	Munia punctularia (L.)?	71.

Sturnidae.

153.	Calornis chalybaea (Horsf.).	"
154.	Gracula javanensis (Osb.).	"

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155.	Oriolus indicus, Briss.	"
156.	" xanthonotus, Horsf.	72.
157.	" cruentus (Wagl.).	"

Corvidae.

158.	Cissa chinensis (Bodd.).	72.
159.	Dendrocitta occipitalis (Müll.).	73.
160.	Platysmurus leucopterus (Temm.).	74.
161.	Corvus validus, Bp.	"

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162.	Treron nasica, Schl.	75.
163.	" oxyura (Temm.).	"
164.	" vernans (L.).	"
165.	Carpophaga aenea (L.).	76.

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166.	Spilopelia tigrina (Temm.).	"
167.	Macropygia leptogrammica (Temm.).	"
168.	" ruficeps (Temm.).	"
169.	Geopelia striata (L.).	77.

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170.	Polyplectron chalcurum, Temm.	"
171.	Argusianus argus (L.).	"
172.	Acomus inornatus, Salvad.	"
173.	Gallus ferrugineus (Gm.).	78.

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174. Peloperdix rubrirostris, Salvad. 78.
175. Caloperdix oculea (Temm.). "
176. Rollulus roulroul (Scop.). 79.

Charadriidae.

177. Charadrius fulvus, Gm. "

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178. Totanus hypoleucos (L.). "
179. Gallinago stenura, Schl. "

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180. Erythra phoenicura (Penn.). 80.
*181. Ortygometra cinerea (Vieill.). "

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182. Ardea purpurea, L. "
183. Demiegretta sacra (Gm.). "
184. Herodias intermedia (Wagl.). 81.
185. Bubulcus coromandus (Bodd.). "
186. Butorides javanica (Horsf.). "
187. Ardetta cinnamomea (Gm.). "
188. Gorsachius melanolophus (Raffl.). "

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